

570.5  
Is1  
v.39:3  
cop.6



Institute of Natural Resource Sustainability

# Review of the Species of New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae)

## IV. Genus *Eratoneura*

Dmitry A. Dmitriev and Christopher H. Dietrich

Illinois Natural History Survey Bulletin  
Volume 39, Article 3  
June 2010





UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Institute of Natural Resource Sustainability  
William Shilts, Executive Director

Illinois Natural History Survey  
Brian D. Anderson, Director  
I-Building  
1816 South Oak Street  
Champaign, Illinois 61820  
217-333-6880

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN  
NAT. HIST. SURV.  
NAT. HIST. SURV.

Citation:

Dmitriev, D.A., and C.H. Dietrich. 2010. Review of the species of New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). IV. Genus *Eratoneura*. Illinois Natural History Survey Bulletin 39(3):79–258.

For permissions, contact the Institute of Natural Resource Sustainability.

Editor: Charles Warwick

US ISSN 0073-4918

US ISBN 1-882932-24-2

© 2010 University of Illinois Board of Trustees. All rights reserved.

Printed with soy ink on recycled and recyclable paper.

The University of Illinois will not engage in discrimination or harassment against any person because of race, color, religion, national origin, ancestry, age, marital status, disability, sexual orientation including gender identity, unfavorable discharge from the military or status as a protected veteran and will comply with all federal and state nondiscrimination, equal opportunity and affirmative action laws, orders and regulations. This nondiscrimination policy applies to admissions, employment, access to and treatment in University programs and activities.

University complaint and grievance procedures provide employees and students with the means for the resolution of complaints that allege a violation of this Statement. Inquiries or complaints may be addressed to the Director and Assistant Chancellor, Office of Equal Opportunity and Access, 601 East John Street, Swanlund Administration Building, (217) 333-0885, fax (217) 244-9136, TTY (217) 244-9850 or the Associate Provost and Director, Academic Human Resources, Henry Administration Building, (217) 333-6747, fax (217) 244-5584. For other University of Illinois information, contact University Directory Assistance at 333-1000.

# Review of the Species of New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae)

## IV. Genus *Eratoneura*

Dmitry A. Dmitriev and Christopher H. Dietrich

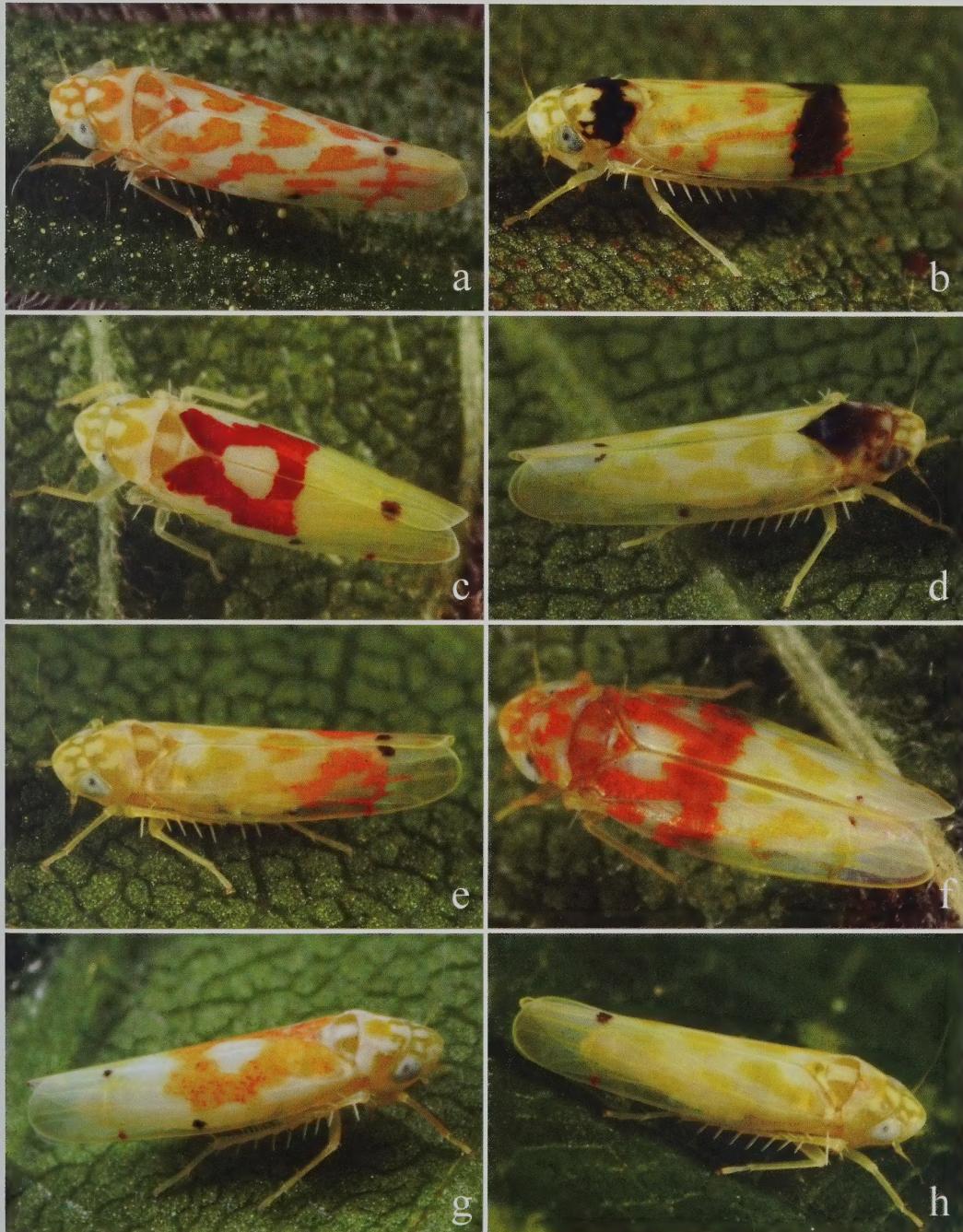


Plate 1. Photos of *Eratoneura*. a – *E. affinis* (Fitch); b – *E. morgani* (DeLong); c – *E. pyra* (McAtee); d – *E. ardens* (McAtee); e – *E. affinis* (Fitch), color var. *rubida*; f – *E. affinis* (Fitch), color variation; g – *E. fulleri* (Hepner); h – *E. rotunda* (Beamer).



Review of the Species of New World  
Erythroneurini (Hemiptera: Cicadellidae:  
Typhlocybinae)

IV. Genus *Eratoneura*

Dmitry A. Dmitriev and Christopher H. Dietrich

## CONTENTS

Plate 1 (Photos of <i>Eratoneura</i> Species) .....	Frontis
Abstract .....	79
Introduction .....	80
Materials and Methods .....	80
Taxonomy .....	81
Genus <i>Eratoneura</i> Young, 1952 .....	81
Key to Adult Males of <i>Eratoneura</i> .....	83
<i>Eratoneura dira</i> .....	101
<i>Eratoneura gillettei</i> .....	102
<i>Eratoneura imbricariae</i> .....	102
<i>Eratoneura lamucata</i> .....	103
<i>Eratoneura maculata</i> .....	103
<i>Eratoneura eversi</i> .....	104
<i>Eratoneura noncuspidis</i> .....	105
<i>Eratoneura teshi</i> .....	106
<i>Eratoneura osborni</i> .....	106
<i>Eratoneura sandersoni</i> .....	107
<i>Eratoneura crinita</i> .....	108
<i>Eratoneura andersoni</i> .....	109
<i>Eratoneura paraesculi</i> .....	109
<i>Eratoneura tammina</i> .....	110
<i>Eratoneura texana</i> .....	111
<i>Eratoneura separata</i> .....	111
<i>Eratoneura curvata</i> .....	112
<i>Eratoneura restricta</i> .....	113
<i>Eratoneura impar</i> .....	113
<i>Eratoneura carmini</i> .....	114
<i>Eratoneura forfex</i> .....	115
<i>Eratoneura linea</i> .....	115
<i>Eratoneura rangifer</i> .....	116
<i>Eratoneura dimidiata</i> .....	117
<i>Eratoneura sanctaerosae</i> .....	118
<i>Eratoneura betulae</i> .....	118
<i>Eratoneura concisa</i> .....	119
<i>Eratoneura spala</i> .....	120
<i>Eratoneura harpola</i> .....	121
<i>Eratoneura minor</i> .....	122
<i>Eratoneura aesculi</i> .....	122
<i>Eratoneura bifida</i> .....	123
<i>Eratoneura aculeata</i> .....	124
<i>Eratoneura lusoria</i> .....	124
<i>Eratoneura pyra</i> .....	125
<i>Eratoneura millsii</i> .....	126
<i>Eratoneura longifurca</i> .....	126
<i>Eratoneura manus</i> .....	127

570.5

TS1

V. 30.3

Cop. 6

<i>Eratoneura staffordi</i>	128
<i>Eratoneura ardens</i>	128
<i>Eratoneura uvaldeana</i>	129
<i>Eratoneura inepta</i>	130
<i>Eratoneura firma</i>	131
<i>Eratoneura bispinosa</i>	132
<i>Eratoneura hyalina</i>	133
<i>Eratoneura harnedi</i>	134
<i>Eratoneura unica</i>	134
<i>Eratoneura mira</i>	135
<i>Eratoneura facota</i>	136
<i>Eratoneura cristata</i>	136
<i>Eratoneura mcatee</i>	137
<i>Eratoneura ungulata</i>	138
<i>Eratoneura distincta</i>	139
<i>Eratoneura spinea</i>	139
<i>Eratoneura rotunda</i>	140
<i>Eratoneura nigriventer</i>	141
<i>Eratoneura stupkaorum</i>	141
<i>Eratoneura usitata</i>	142
<i>Eratoneura incondita</i>	143
<i>Eratoneura ingrata</i>	143
<i>Eratoneura arenosa</i>	144
<i>Eratoneura uncinata</i>	145
<i>Eratoneura arpegia</i>	145
<i>Eratoneura propria</i>	146
<i>Eratoneura brevipes</i>	146
<i>Eratoneura turgida</i>	147
<i>Eratoneura delongi</i>	148
<i>Eratoneura immota</i>	149
<i>Eratoneura tantilla</i>	149
<i>Eratoneura sorota</i>	150
<i>Eratoneura solita</i>	151
<i>Eratoneura knullae</i>	151
<i>Eratoneura omani</i>	152
<i>Eratoneura mimica</i>	153
<i>Eratoneura sancta</i>	153
<i>Eratoneura inksana</i>	154
<i>Eratoneura alloplana</i>	155
<i>Eratoneura parva</i>	155
<i>Eratoneura mirifica</i>	156
<i>Eratoneura abjecta</i>	157
<i>Eratoneura hartii</i>	157
<i>Eratoneura misera</i>	158
<i>Eratoneura nevadensis</i>	159
<i>Eratoneura lata</i>	159
<i>Eratoneura levecki</i>	160
<i>Eratoneura tantula</i>	160
<i>Eratoneura beeri</i>	161
<i>Eratoneura accita</i>	162
<i>Eratoneura cera</i>	162
<i>Eratoneura rubraza</i>	163
<i>Eratoneura affinis</i>	164
<i>Eratoneura stephensonii</i>	164

<i>Eratoneura clavipes</i>	165
<i>Eratoneura retusa</i>	166
<i>Eratoneura hymac</i>	166
<i>Eratoneura externa</i>	167
<i>Eratoneura brooki</i>	168
<i>Eratoneura longa</i>	168
<i>Eratoneura sebringensis</i>	169
<i>Eratoneura parvipes</i>	170
<i>Eratoneura calamitosa</i>	170
<i>Eratoneura richardsi</i>	171
<i>Eratoneura marilandicae</i>	171
<i>Eratoneura opulenta</i>	172
<i>Eratoneura era</i>	173
<i>Eratoneura fergusoni</i>	174
<i>Eratoneura ellisi</i>	174
<i>Eratoneura acantha</i>	175
<i>Eratoneura interna</i>	176
<i>Eratoneura robusta</i>	176
<i>Eratoneura metopia</i>	177
<i>Eratoneura patris</i>	177
<i>Eratoneura econa</i>	178
<i>Eratoneura alicia</i>	179
<i>Eratoneura zioni</i>	179
<i>Eratoneura greeni</i>	180
<i>Eratoneura lenta</i>	180
<i>Eratoneura gilesi</i>	181
<i>Eratoneura maga</i>	182
<i>Eratoneura igella</i>	183
<i>Eratoneura stannardi</i>	183
<i>Eratoneura trautmanae</i>	184
<i>Eratoneura knighti</i>	185
<i>Eratoneura triangulata</i>	185
<i>Eratoneura corylorubra</i>	186
<i>Eratoneura fulleri</i>	187
<i>Eratoneura rubranotata</i>	187
<i>Eratoneura citrosa</i>	188
<i>Eratoneura clara</i>	189
<i>Eratoneura nimia</i>	189
<i>Eratoneura flexibilis</i>	190
<i>Eratoneura certa</i>	191
<i>Eratoneura direpta</i>	192
<i>Eratoneura tersa</i>	193
<i>Eratoneura luculenta</i>	194
<i>Eratoneura fausta</i>	194
<i>Eratoneura bella</i>	195
<i>Eratoneura coxi</i>	196
<i>Eratoneura torella</i>	196
<i>Eratoneura tumida</i>	197
<i>Eratoneura glicilla</i>	197
<i>Eratoneura morgani</i>	198
<i>Eratoneura arta</i>	199
<i>Eratoneura hymettana</i>	199
<i>Eratoneura lawsoni</i>	200
<i>Eratoneura continua</i>	201

<i>Eratoneura valida</i>	201
<i>Eratoneura pamelae</i>	202
<i>Eratoneura protuma</i>	203
<i>Eratoneura havana</i>	203
<i>Eratoneura gemoides</i>	204
<i>Eratoneura gemina</i>	204
<i>Eratoneura malaca</i>	205
<i>Eratoneura penesica</i>	206
<i>Eratoneura parallela</i>	207
<i>Eratoneura severini</i>	207
<i>Eratoneura claroides</i>	208
<i>Eratoneura lunata</i>	209
<i>Eratoneura adunca</i>	209
<i>Eratoneura curta</i>	210
<i>Eratoneura ballista</i>	211
<i>Eratoneura rostrata</i>	211
<i>Eratoneura penerostrata</i>	212
<i>Eratoneura emquai</i>	213
<i>Eratoneura trivittata</i>	213
<i>Eratoneura anseri</i>	214
<i>Eratoneura stoveri</i>	215
<i>Eratoneura campora</i>	215
<i>Eratoneura spinifera</i>	216
<i>Eratoneura comoides</i>	217
<i>Eratoneura confirmata</i>	218
<i>Eratoneura phellos</i>	218
<i>Eratoneura bigemina</i>	219
<i>Eratoneura mensa</i>	220
<i>Eratoneura basilaris</i>	221
<i>Eratoneura micheneri</i>	222
<i>Eratoneura lucyae</i>	222
<i>Eratoneura guicei</i>	223
<i>Eratoneura lundi</i>	224
<i>Eratoneura marra</i>	224
<i>Eratoneura staminea</i>	225
<i>Eratoneura unca</i>	226
<i>Eratoneura dumosa</i>	226
<i>Eratoneura ligata</i>	227
<i>Eratoneura contracta</i>	228
<i>Eratoneura vittata</i>	229
<i>Eratoneura biramosa</i>	229
<i>Eratoneura smithi</i>	230
<i>Eratoneura prolixa</i>	230
<i>Eratoneura teres</i>	231
<i>Eratoneura amethica</i>	232
<i>Eratoneura tenuitas</i>	232
<i>Eratoneura haysensis</i>	233
<i>Eratoneura geronimoi</i>	234
<i>Eratoneura macra</i>	234
<i>Eratoneura socia</i>	235
<i>Eratoneura accola</i>	236

Acknowledgements .....	236
References .....	237
Appendix I: Collections and Studied Material.....	241
Appendix II: Host Plant Index .....	244
Appendix III: Species Index .....	245
Illustrations: Plates 2–11 .....	249

**Review of the Species of New World Erythroneurini  
(Hemiptera: Cicadellidae: Typhlocybinae).  
IV. Genus *Eratoneura***

Dmitry A. Dmitriev and Christopher H. Dietrich

**ABSTRACT**

The 197 species (including 2 new species) of the Nearctic leafhopper genus *Eratoneura* are reviewed. *Eratoneura betulae* sp.n. from New Brunswick (Canada) and *E. mcateeae* sp.n. from the central and northeastern USA are described as new. In addition, 123 new synonyms are recognized and a lectotype is designated for *Typhlocyba hartii* Gillette. A key is provided for identification of males. All known species are illustrated, and data on their distributions and host plants are summarized. All species of *Eratoneura* are native to temperate North America, where they feed and oviposit mainly on woody deciduous trees and shrubs.

**KEYWORDS:** Auchenorrhyncha, distribution, Homoptera, identification, leafhopper, morphology, taxonomy.

## INTRODUCTION

This revision of the genus *Eratoneura* completes the series of publications on the New World Erythroneurini (Dietrich & Dmitriev, 2006a, 2007a, 2008a; Dmitriev & Dietrich, 2007a, 2009a). *Eratoneura* was described by Young (1952b) as a subgenus of *Erythroneura* Fitch to comprise the *Erythroneura maculata* species group designated by Robinson (1926a) and comprehensively revised by Beamer in series of publications (1931a, b, c, d, 1932a, c, d, e, f, g, h). In these papers Beamer provided illustrations of the male genitalia for all known species, incorporated these characters into a dichotomous key, and associated males with most of the species and varieties (=subspecies, see ICZN, 1999, Art. 45.6.4) that had been described by McAtee (1920a, 1924c, 1924d, 1926c) and previous authors based on females. Johnson (1935a) independently revised the species of *Erythroneura sensu lato* (including *Eratoneura*) from Ohio and provided a key for their identification. She described many new species in this and subsequent papers (Knoll, 1944b, 1945b, 1949a, 1951a, 1954b, 1955a; Knoll & Auten, 1937a, 1938b). After these revisions, H.H. Ross (with D.M. DeLong) and L.W. Hepner described more than 150 additional species of *Eratoneura*. Dietrich and Dmitriev (2006a) revised the generic classification of the New World Erythroneurini and elevated *Eratoneura* to the genus level.

All species of *Eratoneura* are native to temperate North America, where they feed and oviposit mainly on woody deciduous trees and shrubs. Ross (1957c, 1958c) did an extensive study of coexisting *Eratoneura* species on sycamore in southern Illinois. Adults overwinter in leaf litter, and in the spring, they emerge and feed on the new leaves of early-emerging deciduous plants before migrating to their “definitive” summer host plants where they mate and lay eggs (Ross & DeLong 1953a). Most species oviposit and undergo nymphal development on a single, or a group of closely related, plant species. In the southern USA, they complete two or more generations per year, but in the north there may be but a single generation. In the fall, adults may again feed on a variety host plants prior to seeking out winter shelter in leaf litter. Most species of *Eratoneura* have no known economic importance, but a few are recorded as pests of apple (Beamer, 1930a, 1932b; Hamilton, 1985a).

## MATERIAL AND METHODS

Few previous workers have specifically targeted *Eratoneura* in their collecting, and specimens from trap catches and other general collecting that find their way into curated collections are often in very poor condition. Because of this, and due to time and budget constraints, this study focused only on collections known to contain large numbers of well-curated specimens of *Eratoneura*, as well as those housing primary types: Illinois Natural History Survey (INHS), Ohio State University (OSU), University of Kansas Natural History Museum (KSEM), Mississippi State University, Mississippi Entomological Museum (MEM), Canadian National Collection of Insects, Arachnids and Nematodes (CNC), Smithsonian National Museum of Natural History (USNM), California Academy of Sciences (CAS), and Colorado State University (CSUC). The numbers of studied specimens from each collection are summarized in Appendix 1. Future collecting will undoubtedly show that the distributions of most species are much broader than indicated on the maps accompanying individual species treatments. Although these maps show regional biases reflecting the locations and holdings of the studied collections, they are based on vouchered collection records and, thus, accurately reflect current knowledge of species distributions. On the maps the type locality is marked with a star.

Identification of species was mainly based on type material. In some cases, when the type was not located, or the holotype is a female (e.g., most of McAtee’s species), we followed Beamer’s interpretation, based on study of dissected male specimens that he labeled “allotype” to indicate that they had been compared to the female primary types of previous workers. Although Beamer’s “allotypes” have no official standing in nomenclature, these dissected male specimens facilitate unambiguous interpretation of Beamer’s concept of the species.

Morphological terminology follows Dietrich and Dmitriev (2006a, see also Fig. 1). Although individual species have a characteristic color pattern, details and intensity may be highly variable both inter- and intraspecifically. Overwintering individuals tend to be more brightly colored than adults of the summer generation of the same species. This has re-

sulted in many species being described multiple times based on different color forms. In the descriptions below, the pattern of fully colored individuals is described, although completely or almost completely discolored forms are known for most species. Thus, identification keys are based mainly on male genitalia, with external characters used only for supplemental purposes.

This work recognizes numerous synonyms treated as valid species by previous workers. Most junior synonyms represent color variants, or forms differing slightly in the shape of the aedeagus, or the shape and length of the pygofer appendages. A few species were described based on aberrant forms with distorted genitalia, possibly caused by parasitism. In some cases where genitalia were mounted on slides, species were described based on contaminant particles embedded in the balsam.

Each species is illustrated by one or more habitus photos taken using a Microptics digital imaging system. Original drawings were prepared only in cases where those available from other sources were deemed inaccurate. Thus, numerous figures are reproduced from other sources, as noted in the figure captions. Inconsistencies (e.g., in line thickness) among line drawings reflect differences in the drawing styles of previous authors. In all cases, figures reproduced from previous publications are either in the public domain or are reproduced with permission.

Line drawings of the male genitalia accompanying each species treatment are labeled as follows:

- a – pygofer or pygofer appendage, lateral view;
- b – pygofer or pygofer appendage, dorsal view;
- c – style or style apex, broad aspect;
- d – aedeagus, lateral view;
- e – aedeagus, posteroventral or ventral view.

Nomenclatural, distributional, morphological and host-plant data summarized below were extracted from a relational specimen-level database of Erythroneurini (Dmitriev & Dietrich, 2003 onwards), developed using the 3I software package (Dmitriev, 2006a; Dmitriev & Dietrich, 2008a). The on-line database provides more detailed information for each species, including a complete list of specimens examined, photos of type specimens, and interactive key to species.

In the species treatments below, only summer host plants are listed, although most species

have also been collected from plants other than their oviposition hosts.

Specimens of newly described taxa (*E. betulae* sp.n. and *E. mcateeii* sp.n.) are deposited in the insect collections of the Illinois Natural History Survey (Champaign), Canadian National Collection of Insects, Arachnids and Nematodes (Ontario), and Mississippi State University (State College).

## TAXONOMY

### Subfamily *Typhlocybinae*

#### Tribe *Erythroneurini* Young, 1952

##### Genus *Eratoneura* Young, 1952

*Erythroneura maculata* species group  
Robinson, 1926a:109

*Erythroneura* (*Eratoneura*) Young,  
1952b:84 (Type: *Erythroneura*  
*dira* Beamer, 1931)

*Eratoneura* Dietrich & Dmitriev,  
2006a:133

**Diagnosis:** Ground color usually pale, often with red or orange maculae distributed on dorsum and black or dark brown spots near costal margin and in inner apical cell; crown without pair of brown or black spots. Male pygofer without ventral appendage or sclerotized ridge; dorsal appendage immovably fused to margin, simple or bifurcated, with additional small projection at base; basolateral setae well developed. Style apex usually with three angulate projections.

**Description:** Length 2.3–3.7 mm, slender. Head narrower than pronotum. Crown fore margin produced, angulate or rounded. Ocelli absent or vestigial. Face depressed in profile, less than 45° from horizontal. Pronotum smooth, without conspicuous pits. Forewing outer apical cell about 2X as long as wide or longer; second apical cell basally truncate (ir crossvein present); third apical cell parallel sided, straight; CuP vein longer than segment of CuA between Cu and MP; inner apical cell with oblique base, basal segment of CuA and CuP veins forming continuous line; Pcu vein not visible. Hind wing apex truncate; submarginal vein not extended to wing apex; ScR vein present; MP and CuA veins touching at one point, fused for short distance or separated by m-cu crossvein. Front femur anteroventral

row with basal seta distinctly larger than others. 2S abdominal apodemes variable, small, narrow and short to large, broad, and extended beyond posterior margin of sternite III (3S). Pygofer not extended to apex of subgenital plate; lobe rounded or angulate; dorsal emargination extended to base of segment; dorsal membrane without fine setae; oblique dorsolateral internal ridge not developed; basolateral setae in distinct group, small; distal and dorsal setae undifferentiated; internal surface of lobe with setae; sparse long fine setae present; microtrichia well developed. Pygofer dorsal appendage immovably fused to margin, without basal suture; appendage simple or bifurcated, with additional small projection at base; ventral appendage or sclerotized ridge absent. Sternite IX with median longitudinal internal ridge. Subgenital plates free; lateral margin with angulate subbasal projection; section basad of medial constriction shorter than distal section; with 4 basal macrochaetae uniserial along

margin; distinct marginal subbasal rigid setae forming continuous row; distal macrochaetae absent. Style free; preapical lobe prominent; apex smooth with 3 points or rarely truncated. Aedeagus articulated to connective; with dorsal apodeme broadly expanded in lateral view; apodeme parallel sided in ventral view, connection to pygofer membranous. Aedeagus shaft symmetrical, usually denticulate distally, sometimes with basal or distal processes. Connective U- or V-shaped, without median anterior lobe, with long arms. Anal tube without processes. Coloration variable, but all known species with crown lacking pair of fuscous preapical spots. Usual color pattern (see *E. dira* Beamer, Plate 1a, 2a, for example) consisting of pale or dull yellow dorsum with red or orange maculae distributed on crown thorax and forewings and black or dark brown spots near costal margin and near base of inner apical cell.

**Distribution:** Temperate North America.

**Host plants:** Deciduous trees, shrubs.

### Key to Adult Males of *Eratoneura*<sup>1</sup>

1. Aedeagus with pair of slender distal processes (Fig. 2e, 3e). ..... 2  
 1'. Aedeagus without slender distal processes (Fig. 1e, 9e). ..... 8

2(1). Aedeagus with pair of processes arising at base or near midlength of shaft (Fig. 2d, e). ..... 3  
 2'. Aedeagus without processes arising at base or near midlength of shaft (Fig. 5d, e). ..... 4

3(2). Aedeagal shaft curved dorsad, processes arising near midlength of shaft (Fig. 2d, e). Dorsal pygofer appendage extended to pygofer apex (Fig. 2a, b). ..... 2. *E. gillettei* (Beamer)  
 3'. Aedeagal shaft curved ventrad, processes arising at base of shaft (Fig. 3d, e). Dorsal pygofer appendage not extended to pygofer apex (Fig. 3a, b). ..... 3. *E. imbricariae* (Ross & DeLong)

4(2). Tip of aedeagal shaft with short dorsal projection; distal processes extended ventrolaterad (Fig. 4d, 5d). ..... 5  
 4'. Tip of aedeagal shaft without dorsal projection; distal processes extended dorsolaterad (Fig. 6d). ..... 6

5(4). Distal processes of aedeagus about as long as shaft (Fig. 4e). ..... 4. *E. lamucata* (Ross & DeLong)  
 5'. Distal processes of aedeagus about half as long as shaft (Fig. 5e). ..... 5. *E. maculata* (Gillette)

6(4). Third point of style apex longer than half distance between other two points (Fig. 6c). Distal processes of aedeagus arising subapically, shorter than half length of shaft (Fig. 6e). ..... 6. *E. eversi* (Ross & DeLong)  
 6'. Third point of style apex shorter than half distance between other two points (Fig. 7c, 8c). Distal processes of aedeagus arising apically, almost as long as shaft (Fig. 7e). ..... 7

7(6). Third point of style apex short toothlike, subequal in size to second point (Fig. 7c). Aedeagal shaft with prominent lateral lobes, smooth (Fig. 7d, e). Pygofer appendage compressed (Fig. 7a, b). ..... 7. *E. noncuspidis* (Beamer)  
 7'. Third point of style apex almost as long as half distance between other two points (Fig. 8c). Aedeagal shaft without lateral lobes, with teeth (Fig. 8d, e). Pygofer appendage not compressed (Fig. 8a, b). ..... 8. *E. teshi* (Hepner)

8(1). Aedeagus with pair of processes arising at base of shaft (Fig. 9d, e, 10d, e). ..... 9  
 8'. Aedeagus without processes arising at base of shaft (Fig. 17d, e). ..... 15

9(8). Pygofer appendage not extended to pygofer apex, bulbous subapically (Fig. 9a, b). Forewing basal half uniformly red (Plate 2i). ..... 9. *E. osborni* (DeLong)  
 9'. Pygofer appendage extended to or beyond pygofer apex, not bulbous subapically (Fig. 10a, b). Forewing basal half yellow with reddish maculae (Plate 2a). ..... 10

10(9). Third point of style apex longer than distance between other two points (Fig. 10c). Pygofer appendage curved upward, widest at midlength (Fig. 10a). Basal processes of aedeagus small toothlike (Fig. 10d, e). ..... 10. *E. sandersoni* (Ross)  
 10'. Third point of style apex shorter than distance between other two points (Fig. 11c). Pygofer appendage straight or curved downward, widest at base (Fig. 11a). Basal processes of aedeagus longer (Fig. 11d, e). ..... 11

<sup>1</sup> An interactive key for species of *Eratoneura* is available at: <http://ctap.inhs.uiuc.edu/dmitriev/>

11(10). Pygofer appendage with ring of long spines near midlength (Fig. 11a, b). Aedeagal shaft strongly compressed, with dorsal carina or distal lobe; basal processes appressed to shaft (Fig. 11d, e). ..... 12  
 11'. Pygofer appendage without ring of long spines (Fig. 14a, b). Aedeagal shaft without dorsal carina or distal lobe; basal processes divergent from shaft (Fig. 14d, e). ..... 13

12(11). Aedeagal shaft broad in lateral view, only about twice as long as wide; basal processes extended along dorsal margin of shaft (Fig. 11d). ..... 11. *E. crinita* (Beamer)  
 12'. Aedeagal shaft slender in lateral view, more than 5 time as long as wide; basal processes extended along ventral margin of shaft (Fig. 12d). ..... 12. *E. andersoni* (Beamer)

13(11). Third point of style apex longer than half distance between other two points (Fig. 13c).  
 Aedeagal shaft broad (Fig. 13d). Larger (3.5–3.7 mm). Forewing with two large reddish patches (Plate 2m<sub>1</sub>). ..... 13. *E. paraesculii* (Knoll)  
 13'. Third point of style apex shorter than half distance between other two points (Fig. 14c).  
 Aedeagal shaft slender (Fig. 14d). Smaller (2.8–3.1 mm). Forewing with usual maculate pattern (Plate 2n). ..... 14

14(13). Preatrium much shorter than aedeagal shaft; basal processes almost as long as shaft (Fig. 14d). ..... 14. *E. tammina* (Ross & DeLong)  
 14'. Preatrium about as long as aedeagal shaft; basal processes shorter than half length of shaft (Fig. 15d). ..... 15. *E. texana* (Beamer)

15(8). Pygofer appendage (not including small basal projection) bifurcate or expanded at apex (Fig. 22a, 27a). ..... 16  
 15'. Pygofer appendage not bifurcate or expanded at apex (sometimes expanded near midlength) (Fig. 68a, 80a). ..... 52

16(15). Pygofer appendage bifurcate near base (Fig. 18a). ..... 17  
 16'. Pygofer appendage bifurcate far from base or expanded near apex (Fig. 22a, 27a). ..... 22

17(16). Third point of style apex longer than half distance between other two points (Fig. 16c).  
 Aedeagal shaft curved dorsad, tip abruptly bent dorsad (Fig. 16d). ..... 16. *E. separata* (Beamer)  
 17'. Third point of style apex short toothlike or absent (Fig. 17c). Aedeagal shaft straight, tip not bent dorsad (Fig. 17d). ..... 18

18(17). Ventral branch of pygofer appendage abruptly curved upward in distal third (Fig. 17a). .... 17. *E. curvata* (Beamer)  
 18'. Ventral branch of pygofer appendage straight or smoothly curved (Fig. 18a). ..... 19

19(18). Branches of pygofer appendage converging distally, subequal in width or dorsal branch wider (Fig. 18a). ..... 18. *E. restricta* (Beamer)  
 19'. Branches of pygofer appendage not converging distally, ventral branch wider than dorsal (Fig. 19a). ..... 20

20(19). Pygofer appendage extended ventrocaudad, not reaching pygofer apex (Fig. 19a). Aedeagal shaft broad in lateral view, gradually narrowing towards apex, without lateral lobes at base (Fig. 19d, e). ..... 19. *E. impar* (Beamer)  
 20'. Pygofer appendage extended caudad along dorsal margin of pygofer, reaching pygofer apex (Fig. 20a). Aedeagal shaft in lateral view more slender, parallel-sided, with lateral lobes at base (Fig. 20d, e, 21d, e). ..... 21

21(20). Ventral branch of pygofer appendage evenly tapering towards apex (Fig. 20a). ....	20.	<i>E. carmini</i> (Beamer)
21'. Ventral branch of pygofer appendage parallel sided through most of length, abruptly narrowing at apex (Fig. 21a). ....	21.	<i>E. forfex</i> (Beamer)
22(16). Third point of style apex about as long as or longer than distance between other two points (Fig. 22c). ....	23	
22'. Third point of style apex about as long as or shorter than half distance between other two points (Fig. 36c, 37c). ....	37	
23(22). Apex of pygofer appendage with numerous spines (Fig. 22a, 23a). ....	24	
23'. Apex of pygofer appendage bifurcate, without spines (Fig. 24a). ....	25	
24(23). Aedeagal shaft more than twice as long as wide in lateral view, with lateral lobes not broader than shaft in ventral view (Fig. 22d, e). Third point of style apex evenly curved (Fig. 22c). ....	22.	<i>E. linea</i> (Beamer)
24'. Aedeagal shaft less than twice as long as wide in lateral view, with lateral lobes broader than shaft in ventral view (Fig. 23d, e). Third point of style apex sinuate (Fig. 23c). ....	23.	<i>E. rangifer</i> (Ross & DeLong)
25(23). Tip of aedeagal shaft expanded in ventral view, abruptly bent dorsad in lateral view (Fig. 24d, e). ....	24.	<i>E. dimidiata</i> (Knull)
25'. Tip of aedeagal shaft not expanded in ventral view, not bent dorsad in lateral view (Fig. 25d, e). ....	26	
26(25). Aedeagal shaft round in crosssection through length (Fig. 25d, e). ....	25.	<i>E. sanctaerosae</i> (Hepner)
26'. Aedeagal shaft compressed (Fig. 26d, e, 27d, e). ....	27	
27(26). Aedeagal shaft about as long as wide in ventral view (Fig. 27e). ....	28	
27'. Aedeagal shaft about 1.5 times as long as wide in ventral view (Fig. 31e). ....	31	
28(27). Aedeagal shaft triangular in ventral view (Fig. 26e). Branches of pygofer appendage crossed in dorsal view (Fig. 26b). ....	26.	<i>E. betulae</i> sp.n.
28'. Aedeagal shaft round in ventral view (Fig. 27e, 28e). Branches of pygofer appendage not crossed in dorsal view (Fig. 28b). ....	29	
29(28). Aedeagus with ventral hump (Fig. 27d). Pygofer appendage directed caudad (Fig. 27a). Larger (2.9–3.2 mm). ....	27.	<i>E. concisa</i> (Beamer)
29'. Aedeagus without ventral hump (Fig. 28d). Pygofer appendage curved dorsad (Fig. 28a). Smaller (2.4–2.6 mm). ....	28.	<i>E. spala</i> (Ross & DeLong)
30(27). Dorsal branch of pygofer appendage less than half length of ventral branch, sharply curved outward at right angle (Fig. 29a, b). ....	29.	<i>E. harpola</i> (Ross)
30'. Dorsal branch of pygofer appendage, if shorter than ventral branch, not curved outward (Fig. 31a, b). ....	31	
31(30). Aedeagal shaft narrowing towards apex in ventral view (Fig. 30e, 31e). ....	32	
31'. Aedeagal shaft parallel sided in ventral view (Fig. 33e). ....	34	

32(31). Aedeagal shaft straight in lateral view (Fig. 30d). Branches of pygofer appendage divergent at obtuse angle (Fig. 30a). Forewing color pattern consisting of small reddish maculae (Plate 3i). ..... 30. *E. minor* (Beamer)

32'. Aedeagal shaft curved ventrad in lateral view (Fig. 32d). Branches of pygofer appendage divergent at acute angle (Fig. 32a). Forewing with large reddish patches (Plate 3j, k). ..... 33

33(32). Larger (2.9–3.1 mm). Forewing with single large spot at base (Plate 3ji). ..... 31. *E. aesculi* (Beamer)

33'. Smaller (2.7–2.9 mm). Forewing with two smaller spots: one at base, another at apex of clavus (Plate 3k). ..... 32. *E. bifida* (Beamer)

34(31). Branches of pygofer appendage divergent at acute angle (Fig. 33a). Smaller (2.5–2.7 mm). Coloration usual for genus with small reddish maculae (Plate 3l). ..... 33. *E. aculeata* (Beamer)

34'. Branches of pygofer appendage divergent at about 90° angle (Fig. 34a, 35a). Larger (2.7–3.2 mm). Forewings with enlarged reddish patches (Plate 3m, n). ..... 35

35(34). Ventral branch of pygofer appendage longer than dorsal branch (Fig. 34a). Smaller (2.7–2.9 mm). ..... 34. *E. lusoria* (Van Duzee)

35'. Ventral branch of pygofer appendage shorter than dorsal branch (Fig. 35a). Larger (2.9–3.2 mm). ..... 35. *E. pyra* (McAtee)

36(22). Branches of pygofer appendage at least half as long as appendage, parallel to each other (Fig. 36a). ..... 36. *E. millsi* (Ross & DeLong)

36'. Branches of pygofer appendage much shorter than half length of appendage, divergent, or appendage not bifurcated but expanded at apex (Fig. 37a, 38a). ..... 37

37(36). Preatrium of aedeagus as long as or shorter than half length of aedeagal shaft (Fig. 37d).  
Branches of pygofer appendage long (Fig. 37a). ..... 37. *E. longifurca* (Hepner)

37'. Preatrium of aedeagus about as long as aedeagal shaft (Fig. 38d). ..... 38

38(37). Aedeagal shaft curved dorsad at right angle near base (Fig. 38d). .. 38. *E. manus* (Beamer)

38'. Aedeagal shaft straight in lateral view or only slightly curved (Fig. 39d). ..... 39

39(38). Second point of style apex prominent (Fig. 39c). Apex of pygofer appendage abruptly curved downward, then recurved, denticulate (Fig. 39a). ..... 39. *E. staffordi* (Hepner)

39'. Second point of style apex short toothlike (Fig. 41c). Apex of pygofer appendage not as above. ..... 40

40(39). Lateral lobes of aedeagal shaft large, reaching apex of shaft (Fig. 40d, e). Mesonotum brownish (Plate 3s<sub>1</sub>). ..... 40. *E. ardens* (McAtee)

40'. Lateral lobes of aedeagal shaft, if present, not reaching apex of shaft (Fig. 42d, e, 46d, e). Mesonotum not brownish (Fig. Plate 3q). ..... 41

41(40). Pygofer appendage broad in lateral view, denticulate along dorsal margin (Fig. 41a, 42a). .. 42

41'. Pygofer appendage, if broad in lateral view, not denticulate along dorsal margin (Fig. 43a)..... 43

42(41). Smaller (2.6–2.9 mm). Forewing with zigzag pattern (Plate 3t). . 41. *E. uvaldeana* (Knoll)

42'. Larger (3.1–3.3 mm). Forewing with maculate pattern (Plate 4a). ..... 42. *E. inepta* (Beamer)

43(41). Pygofer appendage bifurcate at apex (Fig. 43a). ..... 44

43'. Pygofer appendage expanded at apex, with multiple distal spines (Fig. 50a, 51a). ..... 50

44(43). Pygofer appendage expanded and compressed in distal half before bifurcation (Fig. 43a, b, 44a, b). ..... 45  
 44'. Pygofer appendage not expanded in distal half, round in crossection (Fig. 48a, b). ..... 46

45(44). Pygofer appendage expanded and compressed only in distal half, thickened along dorsal margin, branches of fork divergent at acute angle (Fig. 43a). Aedeagal shaft with narrow lateral lobes at base, slender in lateral view (Fig. 43d, e). ..... 43. *E. firma* (Beamer)  
 45'. Pygofer appendage expanded and compressed throughout its length, not thickened along dorsal margin, branches of fork divergent at obtuse angle (Fig. 44a). Aedeagal shaft with large lateral lobes, broad in lateral view (Fig. 44d, e). ..... 44. *E. bispinosa* (Beamer)

46(44). Ventral branch of pygofer appendage much longer and thicker than dorsal branch (Fig. 45a). ..... 45. *E. hyalina* (Knoll & Auten)  
 46'. Ventral branch of pygofer appendage not longer or thicker than dorsal branch (Fig. 46a, 48a). ..... 47

47(46). Pygofer appendage sinuate twice before bifurcation, ventral branch very short, toothlike (Fig. 46a, b). ..... 46. *E. harnedi* (Hepner)  
 47'. Pygofer appendage sinuate only once before bifurcation, ventral branch at least twice as long as broad (Fig. 47a, b, 48a, b). ..... 48

48(47). Branches of pygofer appendage extended more or less horizontally, one branch about twice as long as other (Fig. 47a, b). ..... 47. *E. unica* (Beamer)  
 48'. Branches of pygofer appendage extended one above other, of about equal length (Fig. 48a, b). ..... 49

49(48). Branches of pygofer appendage of equal length, or ventral branch slightly longer, angle between branches about 90° (Fig. 48a). ..... 48. *E. mira* (Beamer)  
 49'. Ventral branch of pygofer appendage slightly shorter than dorsal branch, angle between branches acute (Fig. 49a). ..... 49. *E. facota* (Beamer)

50(43). Pygofer appendage depressed (Fig. 50a, b). Smaller (2.6–2.8 mm). ..... 50. *E. cristata* (Knoll)  
 50'. Pygofer appendage not depressed (Fig. 51a, b). Larger (2.8–3 mm). ..... 51

51(50). Pygofer appendage with blunt apex (Fig. 51a). Aedeagus with large lateral lobes at base (Fig. 51e). ..... 51. *E. mcateeai* sp.n.  
 51'. Pygofer appendage with pointed apex (Fig. 52a). Aedeagus without lateral lobes (Fig. 52e). ..... 52. *E. unguis* (Beamer)

52(15). Aedeagus with basal processes arising near midlength of shaft (Fig. 53d, e). ..... 53. *E. distincta* (Knoll & Auten)  
 52'. Aedeagus without basal processes, with or without lateral lobes at base of shaft (Fig. 54d, e, 56d, e). ..... 53

53(52). Pygofer appendage widest at middle (Fig. 54a, 57a). ..... 54  
 53'. Pygofer appendage widest at base (Fig. 72a). ..... 70

54(53). Third point of style apex as long as or longer than distance between other two points (Fig. 54c, 55c). ..... 55  
 54'. Third point of style apex distinctly shorter than distance between other two points (Fig. 62c). ..... 61

55(54). Aedeagal shaft strongly compressed, apex acuminate in ventral view (Fig. 54d, e). ..... 56  
 55'. Aedeagal shaft round or depressed in crossection, apex truncate in ventral view (Fig. 56d, e, 57d, e). ..... 57

56(55). Pygofer appendage arising at middle of dorsal margin of pygofer lobe, its apex straight or slightly curved inward in dorsal view (Fig. 54a, b). ..... 54. *E. spinea* (Knoll)  
 56'. Pygofer appendage arising in basal third of dorsal margin of pygofer lobe, its apex curved outward in dorsal view (Fig. 55a, b). ..... 55. *E. rotunda* (Beamer)

57(55). Aedeagal shaft round in crossection, without lateral lobes at base (Fig. 56d, e). Apex of pygofer appendage curved outward in dorsal view (Fig. 56b). ..... 56. *E. nigriventer* (Beamer)  
 57'. Aedeagal shaft depressed, with lateral lobes at base (Fig. 59d, e). Apex of pygofer appendage not curved outward in dorsal view (Fig. 59b). ..... 58

58(57). Aedeagal shaft short and broad in lateral view, only about 2 times as long as wide (Fig. 57d). Pygofer appendage curved upward in lateral view (Fig. 57a). ..... 57. *E. stupkaorum* (Knoll)  
 58'. Aedeagal shaft slender in lateral view, about 4 times as long as wide (Fig. 58d). Pygofer appendage not curved upward in lateral view (Fig. 58a). ..... 59

59(58). Aedeagal shaft curved dorsad in lateral view (Fig. 58d). Pygofer appendage straight in dorsal view (Fig. 58b). ..... 58. *E. usitata* (Beamer)  
 59'. Aedeagal shaft straight in lateral view (Fig. 59d). Pygofer appendage distinctly sinuate in dorsal view (Fig. 59b). ..... 60

60(59). Pygofer appendage sinuate twice, extended well beyond pygofer apex (Fig. 59a, b). Third point of style apex about as long as distance between other two points (Fig. 59c). Smaller (2.6–2.8 mm). ..... 59. *E. incondita* (Beamer)  
 60'. Pygofer appendage sinuate once, only slightly extended beyond pygofer apex (Fig. 60a, b). Third point of style apex considerably longer than distance between other two points (Fig. 60c). Larger (3–3.2 mm). ..... 60. *E. ingrata* (Beamer)

61(54). Third point of style apex longer than half distance between other two points (Fig. 61c). Aedeagal shaft with large lateral lobes at base; tip of shaft abruptly bent dorsad (Fig. 61d, e). Smaller (2.4–2.8 mm). ..... 62  
 61'. Third point of style apex shorter than half distance between other two points (Fig. 63c). Aedeagal shaft with or without narrow lateral lobes at base; tip of shaft not bent dorsad (Fig. 63d, e). Larger (2.8–3.3 mm). ..... 63

62(61). Aedeagal shaft with dorsal carina; shaft narrowing towards apex in lateral view; lateral lobes narrowing towards shaft apex, widest at base (Fig. 61d, e). ..... 61. *E. arenosa* (Ross & DeLong)  
 62'. Aedeagal shaft without dorsal carina; shaft parallel sided in lateral view; lateral lobes rounded, widest at middle (Fig. 62d, e). ..... 62. *E. uncinata* (Beamer)

63(61). Forewing with 3 narrow red crossbands (Plate 4v). ..... 63. *E. arpegia* (Ross)  
 63'. Forewing with usual maculate color pattern (Plate 4w). ..... 64

64(63). Aedeagal shaft broad in lateral view, distinctly compressed; gonoduct well separated from dorsal margin of shaft at least distally (Fig. 64d, e). ..... 65  
 64'. Aedeagal shaft slender in lateral view; gonoduct close to dorsal margin of shaft throughout its length (Fig. 66d, e). ..... 66

65(64). Aedeagal shaft with straight dorsal and ventral margins; gonoduct distant from dorsal margin throughout length of shaft (Fig. 64d). ....	64. <i>E. propria</i> (Beamer)
65'. Aedeagal shaft with slightly bent dorsal and ventral margins; gonoduct distant from dorsal margin only in distal half of shaft (Fig. 65d). ....	65. <i>E. brevipes</i> (Beamer)
66(64). Aedeagal shaft distinctly curved dorsad; dorsal apodeme rounded distally in dorsal view (Fig. 66d, e). ....	66. <i>E. turgida</i> (Beamer)
66'. Aedeagal shaft straight in lateral view or slightly curved ventrad; dorsal apodeme truncate distally in dorsal view (Fig. 67d, e). ....	67
67(66). Pygofer appendage swollen in distal half (Fig. 67a). ....	67. <i>E. delongi</i> (Knoll & Auten)
67'. Pygofer appendage swollen in distal two thirds (Fig. 68a). ....	68
68(67). Pygofer appendage not denticulate, more than twice as wide at middle as at base; its dorsal margin straight (Fig. 68a). ....	68. <i>E. immota</i> (Beamer)
68'. Pygofer appendage denticulate distally, less than twice as wide at middle as at base; its dorsal margin sinuate (Fig. 70a). ....	69
69(68). Pygofer appendage extended beyond pygofer apex, directed caudad (Fig. 69a). ....	69. <i>E. tantilla</i> (Beamer)
69'. Pygofer appendage not extended beyond pygofer apex, directed ventrocaudad (Fig. 70a). ....	70. <i>E. sorota</i> (Hepner)
70(53). Pygofer appendage not extended to pygofer apex (Fig. 73a). ....	71
70'. Pygofer appendage extended to or beyond pygofer apex (Fig. 92a). ....	91
71(70). Third point of style apex longer than half distance between other two points (Fig. 71c, 73c). ....	72
71'. Third point of style apex not longer than half distance between other two points (Fig. 81c). ....	81
72(71). Third point of style apex with broad base, triangular in shape (Fig. 71c, 72c). ....	73
72'. Third point of style apex narrow throughout its length (Fig. 73c). ....	74
73(72). Dorsal apodeme of aedeagus extended posterad to midlength of aedeagal shaft in lateral view (Fig. 71d). ....	71. <i>E. solita</i> (Beamer)
73'. Dorsal apodeme of aedeagus not extended beyond base of aedeagal shaft in lateral view (Fig. 72d). ....	72. <i>E. knullae</i> (Ross)
74(72). Aedeagal shaft broad in lateral view and strongly compressed, more than twice as broad in lateral view as in ventral view (Fig. 73d, e). Smaller (2.5–2.7 mm). ....	73. <i>E. omani</i> (Beamer)
74'. Aedeagal shaft slender in lateral view, at most slightly compressed, less than twice as broad in lateral view as in ventral view (Fig. 79d, e). Larger (2.7–3.2 mm). ....	75
75(74). Lateral lobes of aedeagal shaft widest near midlength of shaft (Fig. 74e, 75e). ....	76
75'. Lateral lobes of aedeagal shaft, if present, widest at base of shaft (Fig. 76e). ....	77
76(75). Aedeagal shaft straight in lateral view, forming right angle with preatrium (Fig. 74d). Third point of style apex curved (Fig. 74c). ....	74. <i>E. mimica</i> (Ross)
76'. Aedeagal shaft curved dorsad, forming continuous curve with preatrium (Fig. 75d). Third point of style apex straight (Fig. 75c). ....	75. <i>E. sancta</i> (Beamer)

77(75). Third point of style apex shorter than distance between other two points (Fig. 76c). ..... 76. *E. inksana* (Knoll)  
 77'. Third point of style apex longer than distance between other two points (Fig. 77c). ..... 78

78(77). Pygofer appendage attenuate, about 10 times as long as wide in lateral view, extended towards ventrocaudal margin of pygofer lobe (Fig. 77a). ..... 77. *E. allopiana* (Ross)  
 78'. Pygofer appendage robust, about 5 times as long as wide in lateral view, extended towards caudal margin of pygofer lobe (Fig. 78a). ..... 79

79(78). Aedeagal shaft curved dorsad (Fig. 78d). Pygofer appendage curved upward and inward in distal half (Fig. 78a). ..... 78. *E. parva* (Beamer)  
 79'. Aedeagal shaft straight in lateral view (Fig. 79d). Pygofer appendage straight in distal half (Fig. 79a). ..... 80

80(79). Angle between basal and third points of style apex about 45°, margin between first and second points convex, first point prominent (Fig. 79c). ..... 79. *E. mirifica* (Beamer)  
 80'. Angle between basal and third points of style apex almost 90°, margin between first and second points concave, first point small (Fig. 80c). ..... 80. *E. abjecta* (Beamer)

81(71). Tip of aedeagus depressed, abruptly bent dorsad; aedeagal shaft not denticulate (Fig. 81d). Forewing largely red (Plate 5a). ..... 81. *E. hartii* (Gillette)  
 81'. Tip of aedeagus not as above. Forewing with usual maculate pattern (Plate 5r). ..... 82

82(81). Aedeagal shaft short and broad in lateral view (less than twice as long as wide); preatrium longer than shaft (Fig. 82d, 83d). ..... 83  
 82'. Aedeagal shaft longer and more slender (more than twice as long as wide); preatrium as long as or shorter than shaft (Fig. 84d, 85d). ..... 84

83(82). Aedeagal shaft depressed (Fig. 82d, e). Pygofer appendage curved downward (Fig. 82a). Smaller (2.5–2.6 mm). Mesonotum apex reddish (Plate 5r). ..... 82. *E. misera* (Beamer)  
 83'. Aedeagal shaft compressed (Fig. 83d, e). Pygofer appendage straight in lateral view (Fig. 83a). Larger (2.6–2.8 mm). Mesonotum apex blackish (Plate 5s). ..... 83. *E. nevadensis* (Beamer)

84(82). Aedeagal shaft expanded towards apex in ventral view (Fig. 84d, e). ..... 84. *E. lata* (Beamer)  
 84'. Aedeagal shaft not expanded towards apex in ventral view (Fig. 85d, e). ..... 85

85(84). Aedeagal shaft curved dorsad (Fig. 85d, 86d). ..... 86  
 85'. Aedeagal shaft straight in lateral view or slightly curved ventrad (Fig. 88d, 89d). ..... 88

86(85). Third point of style apex short, toothlike (Fig. 85c). Aedeagal shaft broad in lateral view, with large lateral lobes extended to gonopore (Fig. 85d, e). ..... 85. *E. levecki* (Hepner)  
 86'. Third point of style apex at least 3 times as long as wide (Fig. 87c). Aedeagal shaft slender in lateral view, with small lateral lobes not extended to gonopore (Fig. 87d, e). ..... 87

87(86). Angle between basal and third points of style more than 90° (Fig. 86c). Aedeagal shaft not denticulate, lateral lobes widest at middle of shaft (Fig. 86e). ..... 86. *E. tantula* (Knoll)  
 87'. Angle between basal and third points of style about 90° (Fig. 87c). Aedeagal shaft denticulate, lateral lobes widest at base of shaft (Fig. 87e). ..... 87. *E. beeri* (Hepner)

88(85). Third point of style apex evenly curved, about half as long as distance between other two points (Fig. 88c). Pygofer appendage only 1.5 times as long as basal projection (Fig. 88a). ..... 88. *E. accita* (Knoll)  
 88'. Third point of style apex straight, less than half as long as distance between other two points (Fig. 89c). Pygofer appendage at least twice as long as basal projection (Fig. 89a). ..... 89

89(88). Pygofer appendage evenly curved downward and outward, not compressed (Fig. 89a, b). ..... 89. *E. cera* (Hepner)

89'. Pygofer appendage straight or slightly sinuate in lateral view, straight in dorsal view, compressed (Fig. 91a, b). ..... 90

90(89). Tip of aedeagal shaft curved ventrad; lateral lobes extended beyond midlength of shaft (Fig. 90d, e). Forewing usually with narrow reddish crossband at middle of clavus (Plate 6d). ..... 90. *E. rubraza* (Robinson)

90'. Aedeagal shaft more or less straight; lateral lobes not extended to midlength of shaft (Fig. 91d, e). Forewing without reddish crossband, basal half sometimes darkened (Plate 6e). ..... 91. *E. affinis* (Fitch)

91(70). Third point of style apex very short, toothlike, about as long as wide, or shorter (Fig. 93c). ..... 92

91'. Third point of style apex at least twice as long as wide at base (Fig. 121c, 170c). ..... 118

92(91). Aedeagal shaft distinctly curved dorsad (Fig. 92d, 93d). ..... 93

92'. Aedeagal shaft straight or slightly curved ventrad (Fig. 95d, 96d). ..... 95

93(92). Aedeagal shaft round in crosssection, slender in lateral view, with small lateral lobes (Fig. 92d, e). Coloration whitish with reduced maculate color pattern (Plate 6f). ..... 92. *E. stephensonii* (Beamer)

93'. Aedeagal shaft compressed, broad in lateral view, without lateral lobes (Fig. 93d, e). Coloration yellowish with usual maculate color pattern (Plate 6g). ..... 94

94(93). Pygofer appendage curved downward in lateral view, straight in dorsal view (Fig. 93a, b).  
Larger (3.1–3.3 mm). ..... 93. *E. clavipes* (Beamer)

94'. Pygofer appendage curved upward in lateral view, distinctly sinuate in dorsal view (Fig. 94a, b). Smaller (2.6–2.8 mm). ..... 94. *E. retusa* (Beamer)

95(92). Pygofer appendage strongly curved inward, apex crossing midline (Fig. 95b). ..... 96

95'. Pygofer appendages, at most slightly curved inward, apex not crossing midline (Fig. 97b). ..... 97

96(95). Portion of pygofer appendage distad of bend about twice as long as basal portion, tip sinuate (Fig. 95b). ..... 95. *E. hymac* (Robinson)

96'. Portion of pygofer appendage distad of bend about as long as basal portion, tip straight (Fig. 96b). ..... 96. *E. externa* (Beamer)

97(95). Aedeagus with large denticulate lateral lobes at base, close to dorsal margin of aedeagus (Fig. 97d, e). ..... 97. *E. brooki* (Hepner)

97'. Aedeagus without denticulate lateral lobes (Fig. 100d, e). ..... 98

98(97). Pygofer appendage extended well beyond pygofer apex (usually > 5 times appendage width) (Fig. 100a, b). ..... 99

98'. Pygofer appendage only slightly, if any, extended beyond pygofer apex (Fig. 110a, b). ..... 109

99(98). Pygofer appendage straight in dorsal and lateral view (Fig. 98a, b). ... 98. *E. longa* (Knull)

99'. Pygofer appendage sinuate in dorsal and/or lateral view (Fig. 101a, b). ..... 100

100(99). Pygofer appendage helical, curved in three dimensions (Fig. 99a, b). ..... 99. *E. sebringensis* (Hepner)

100'. Pygofer appendage not helical, sinuate in one plane (Fig. 100a, b). ..... 101

101(100). Third point of style apex not developed (Fig. 100c, 101c). ..... 102

101'. Third point of style apex prominent (Fig. 102c). ..... 103

102(101). Pygofer appendage straight in dorsal view (Fig. 100b). ..... 100. *E. parvipes* (Beamer)  
 102'. Pygofer appendage strongly sinuate in dorsal view (Fig. 101b). ..... 101. *E. calamitos* (Beamer)

103(101). Pygofer appendage curved downward or straight in lateral view, only slightly sinuate in dorsal view (Fig. 102a, b). ..... 104  
 103'. Pygofer appendage in distal half curved upward in lateral view, usually strongly sinuate in dorsal view (Fig. 104a, b). ..... 105

104(103). Pygofer appendage abruptly bent twice (near base and near tip) in dorsal view (Fig. 102b). Aedeagal shaft compressed (Fig. 102 d, e). ..... 102. *E. richardsi* (Ross)  
 104'. Pygofer appendage evenly curved in dorsal view (Fig. 103b). Aedeagal shaft round in cross-section (Fig. 103d, e). ..... 103. *E. marilandicae* (Ross)

105(103). Pygofer lobe with rounded apex (Fig. 104a). Vertex midline usually red (Plate 7a). ..... 104. *E. opulenta* (Beamer)  
 105'. Pygofer dorsal lobe with angulate apex (Fig. 105a). Vertex midline usually yellowish (Plate 7d). ..... 106

106(105). Aedeagus narrow in dorsal view, with small lateral lobes at base (Fig. 105e). Forewing usually with red crossband (Plate 7b). ..... 105. *E. era* (McAtee)  
 106'. Aedeagus more broad in dorsal view, without lateral lobes, or with lobes extended along entire length of shaft (Fig. 106e). Forewing without crossband (Plate 7c). ..... 107

107(106). Aedeagal shaft with lateral lobes along entire length of shaft; preatrium longer than shaft (Fig. 106d, e). ..... 106. *E. fergusoni* (Hepner)  
 107'. Aedeagal shaft without lateral lobes; preatrium about as long as shaft (Fig. 107d, e). ..... 108

108(107). Aedeagal shaft slightly compressed distally; gonoduct divergent from dorsal margin in distal half of shaft (Fig. 107d, e). Smaller (2.7–2.9 mm). ..... 107. *E. ellisi* (Hepner)  
 108'. Aedeagal shaft round in crosssection; gonoduct parallel to dorsal margin of shaft (Fig. 108d, e). Larger (2.9–3.2 mm). ..... 108. *E. acantha* (Ross & DeLong)

109(98). Pygofer appendage distinctly curved downward at angle of about 45° or more from horizontal (Fig. 109a). ..... 110  
 109'. Pygofer appendage straight in lateral view, or only slightly curved downward (Fig. 113a). ....  
 ..... 113

110(109). Pygofer lobe with rounded apex; appendage curved downward at angle of about 90° (Fig. 109a). ..... 109. *E. interna* (Beamer)  
 110'. Pygofer lobe with angulate apex; appendage curved downward at angle of about 45° (Fig. 110a). ..... 111

111(110). Pygofer appendage slightly extended beyond pygofer apex (Fig. 111a). Aedeagal shaft slender, without lateral lobes (Fig. 111e). Larger (2.9–3.1 mm). ..... 112  
 111'. Pygofer appendage not extended beyond pygofer apex (Fig. 110a). Aedeagal shaft broader, with lateral lobes at base (Fig. 110e). Smaller (2.6–2.7 mm). ..... 110. *E. robusta* (Knoll)

112(111). Pygofer appendage abruptly curved downward at middle of its length (Fig. 111a). Aedeagal shaft shorter than preatrium (Fig. 111d). ..... 111. *E. metopia* (Ross)  
 112'. Pygofer appendage evenly curved downward throughout its length (Fig. 112a). Aedeagal shaft about as long as preatrium (Fig. 112d). ..... 112. *E. patris* (Ross & DeLong)

113(109). Pygofer appendage depressed in basal half, twisted at middle, and compressed distally, straight in dorsal and lateral view (Fig. 113a). ..... 113. *E. econa* (Ross)  
 113'. Pygofer appendage, if straight, not twisted (Fig. 114a). ..... 114

114(113). Pygofer appendage slightly curved downward in lateral view (Fig. 114a). Forewing with three narrow red crossbands (Plate 7k). ..... 114. *E. alicia* (Ross)  
 114'. Pygofer appendage straight or slightly curved upward in lateral view (Fig. 116a). Forewing with usual maculate color pattern (Plate 7m). ..... 115

115(114). Pygofer appendage straight (Fig. 115a, b). Forewing with oblique vittae forming continuous zigzag pattern (Plate 7l). ..... 115. *E. zioni* (Beamer)  
 115'. Pygofer appendage distinctly sinuate (Fig. 117a, b). Forewing with broken oblique vittae (Plate 7m). ..... 116

116(115). Aedeagal shaft round in crossection (Fig. 116d, e). Smaller (2.6–2.7 mm). ..... 116. *E. greeni* (Hepner)  
 116'. Aedeagal shaft compressed (Fig. 117d, e, 118d, e). Larger (2.8–3.1 mm). ..... 117

117(116). Aedeagal shaft with large lateral lobes at base, slightly curved dorsad (Fig. 117d, e). ..... 117. *E. lenta* (Beamer)  
 117'. Aedeagal shaft without lateral lobes, straight in lateral view (Fig. 118d, e). ..... 118. *E. gilesi* (Hepner)

118(91). Third point of style apex about as long as or longer than distance between other two points (Fig. 121c, 143c). ..... 119  
 118'. Third point of style apex shorter than distance between other two points (Fig. 163c). ..... 162

119(118). Aedeagal shaft distinctly compressed (Fig. 120d, e). ..... 120  
 119'. Aedeagal shaft round in crossection or depressed (Fig. 127d, e). ..... 125

120(119). Aedeagal shaft slender in lateral view (more than 3 times as long as wide) (Fig. 119d).  
 Pygofer appendage extended to pygofer apex (Fig. 119a, b). ..... 121  
 120'. Aedeagal shaft broad in lateral view (less than 3 times as long as wide) (Fig. 121d). Pygofer appendage extended beyond pygofer apex (Fig. 121a, b). ..... 122

121(120). Third point of style apex about as long as distance between other two points, broad at base; angle between basal and third points of style about 90° (Fig. 119c). ..... 119. *E. maga* (Knoll)  
 121'. Third point of style apex much longer than distance between other two points, narrow throughout its length; angle between basal and third points of style less than 90° (Fig. 120c). ..... 120. *E. igella* (Ross & DeLong)

122(120). Aedeagal shaft without lateral lobes, apex truncate in ventral view (Fig. 121e). Margin between first and second points of style apex convex (Fig. 121c). ..... 121. *E. stannardi* (Hepner)  
 122'. Aedeagal shaft with lateral lobes, its apex acuminate in ventral view (Fig. 122e). Margin between first and second points of style apex straight or concave (Fig. 122c). ..... 123

123(122). Apex of pygofer appendage strongly recurved in lateral view, distinctly denticulate (Fig. 122a). ..... 122. *E. trautmanae* (Knoll)  
 123'. Apex of pygofer appendage not recurved or only slightly recurved in lateral view (Fig. 123a). ..... 124

124(123). Apex of pygofer appendage curved outward in dorsal view (Fig. 55b). Gonoduct separated from dorsal margin of aedeagal shaft by more than half shaft width (Fig. 55d). .....  
..... 55. *E. rotunda* (Beamer)

124'. Apex of pygofer appendage curved inward in dorsal view (Fig. 123b). Gonoduct separated from dorsal margin of aedeagal shaft by less than half shaft width (Fig. 123d). .....  
..... 123. *E. knighti* (Beamer)

125(119). Aedeagal shaft short and broad, not more than 1.5 times longer than wide in ventral view (Fig. 126e). ..... 126

125'. Aedeagal shaft longer, more than 1.5 times longer than wide in ventral view (Fig. 137e). .....  
..... 139

126(125). Third point of style apex with broad base, triangular (Fig. 124c). Aedeagal shaft round in ventral view (Fig. 124e). ..... 124. *E. triangulata* (Beamer)

126'. Third point of style apex narrow throughout its length (Fig. 125c). ..... 127

127(126). Tip of aedeagal shaft abruptly bent dorsad at right angle and expanded (Fig. 125d, e).  
Forewing with large reddish patch (Plate 7v). ..... 125. *E. corylorubra* (Knoll)

127'. Tip of aedeagal shaft not bent dorsad, usually not expanded (Fig. 126d, e). ..... 128

128(127). Denticulate part of aedeagal shaft triangular in dorsal view, narrowing towards apex (Fig. 126e). Forewing usually with large red patches (Plate 8a, b). ..... 129

128'. Denticulate part of aedeagal shaft parallel sided or rounded in dorsal view (Fig. 128e). Forewing with usual maculate pattern (Plate 8f). ..... 130

129(128). Pygofer appendage curved downward (Fig. 126a, b). Forewing with single red patch (Plate 8a). ..... 126. *E. fulleri* (Hepner)

129'. Pygofer appendage curved inward (Fig. 127a, b). Forewing with two red patches (Plate 8b).  
..... 127. *E. rubranotata* (Beamer)

130(128). Ventral margin of aedeagal shaft forming continuous line with preatrium (Fig. 128d).  
Pygofer appendage distinctly curved inward (Fig. 128b). ..... 131

130'. Ventral margin of aedeagal shaft forming obtuse angle with preatrium (Fig. 130d, 132d).  
Pygofer appendage straight or only slightly curved in dorsal view (Fig. 132b). ..... 132

131(130). Aedeagal shaft slender in lateral view, strongly expanded in ventral view, more than 2 times as broad as phallobase (Fig. 128d, e). Pygofer appendage evenly curved throughout its length (Fig. 128b). ..... 128. *E. citrosa* (Ross)

131'. Aedeagal shaft broad in lateral view, only slightly expanded in ventral view, only slightly broader than phallobase (Fig. 129d, e). Pygofer appendages curved in distal third only (Fig. 129b). ..... 129. *E. clara* (Beamer)

132(130). Pygofer appendage extended well beyond pygofer apex (at least 5 times of appendage width) (Fig. 130a). ..... 130. *E. nimia* (Knoll)

132'. Pygofer appendage extended only slightly, if any, beyond pygofer apex (Fig. 131a). ..... 133

133(132). Third point of style apex about as long as distance between other two points (Fig. 131c).  
Aedeagal shaft parallel sided in ventral view, round in cross-section (Fig. 131d, e). .....  
..... 131. *E. flexibilis* (Knoll)

133'. Third point of style apex considerably longer than distance between other two points (Fig. 132c). Aedeagal shaft swollen in ventral view, usually depressed (Fig. 132d, e). ..... 134

134(133). Pygofer appendage slightly sinuate in distal third (Fig. 132a, 133a). ..... 135

134'. Pygofer appendage not sinuate in distal third (Fig. 134a). ..... 136

135(134). Third point of style apex more than 1.5 times as long as distance between other two points (Fig. 132c). Aedeagus without ventral hump (Fig. 132d). ... 132. *E. certa* (Beamer)

135'. Third point of style apex less than 1.5 times as long as distance between other two points (Fig. 133c). Aedeagus with ventral hump (Fig. 133d). ..... 133. *E. direpta* (Knoll)

136(134). Preatrium longer than aedeagal shaft (Fig. 135d). Smaller (2.4–2.7 mm). ..... 137

136'. Preatrium about as long as aedeagal shaft (Fig. 136d). Larger (2.8–3.4 mm). ..... 138

137(136). Pygofer appendage curved downward; pygofer lobe with angulate apex (Fig. 134a, b). ..... 134. *E. teresa* (Knoll)

137'. Pygofer appendage slightly curved inward, straight in lateral view; pygofer lobe with rounded apex (Fig. 1a, b). ..... 1. *E. dira* (Beamer)

138(136). Pygofer appendage curved downward (Fig. 135a). Aedeagal shaft with ventral hump (Fig. 135d). Larger (3.2–3.4 mm). ..... 135. *E. luculenta* (Knoll)

138'. Pygofer appendage straight in lateral view, only slightly curved at tip (Fig. 136a). Aedeagal shaft without ventral hump (Fig. 136d). Smaller (2.8–3.2 mm). ..... 136. *E. fausta* (Knoll)

139(125). Aedeagal shaft with large usually denticulate lateral lobes reaching apex of shaft (Fig. 138e). ..... 140

139'. Lateral lobes on aedeagal shaft, if present, not denticulate and not reaching apex of shaft (Fig. 147e). ..... 148

140(139). Pygofer appendage compressed, apex curved downward (Fig. 137a, 138a). ..... 141

140'. Pygofer appendage straight in lateral view (Fig. 140a). ..... 143

141(140). Pygofer appendage sinuate in dorsal view, strongly denticulate (Fig. 137b). Clavus mostly red (Plate 8l). ..... 137. *E. bella* (McAtee)

141'. Pygofer appendage straight in dorsal view, if denticulate, only along ventral margin (Fig. 138b). Clavus with usual maculate pattern (Plate 8m). ..... 142

142(141). Pygofer appendage denticulate along ventral margin (Fig. 138a). Aedeagal shaft straight in lateral view (Fig. 138d). Smaller (2.5–2.8 mm). ..... 138. *E. coxi* (Ross & DeLong)

142'. Pygofer appendage not denticulate (Fig. 139a). Aedeagal shaft slightly curved dorsad (Fig. 139d). Larger (2.9–3.1 mm). ..... 139. *E. torella* (Robinson)

143(140). Preatrium shorter than aedeagal shaft (Fig. 140d). Angle between basal and third points of style apex about 45° (Fig. 140c). ..... 140. *E. tumida* (Knoll)

143'. Preatrium as long or longer than aedeagal shaft (Fig. 141d). Angle between basal and third points of style apex almost 90° (Fig. 141c). ..... 144

144(143). Lateral lobes of aedeagal shaft without small teeth (Fig. 141e). Smaller (2.3 mm). ..... 141. *E. glicilla* (Ross)

144'. Lateral lobes of aedeagal shaft with small teeth (Fig. 142e). Larger (2.9–3.4 mm). ..... 145

145(144). Pygofer appendage compressed (Fig. 142a, b). Hind margin of mesonotum dark brown. Forewing with brown crossband at apex of clavus (Plate 8q). ..... 142. *E. morgani* (DeLong)

145'. Pygofer appendage not compressed (Fig. 144a, b). Hind margin of mesonotum pale (Plate 8r). ..... 146

146(145). Pygofer appendage sinuate basally, straight in distal half (Fig. 143b). Third point of style apex not longer than distance between other two points (Fig. 143c). ..... 143. *E. arta* (Beamer)

146'. Pygofer appendage straight basally, slightly curved inward in distal half (Fig. 144b). Third point of style apex longer than distance between other two points (Fig. 144c). ..... 147

147(146). Aedeagal shaft with lateral lobes widest at base of shaft (Fig. 144e). Mesonotum with dark brown apex. Forewing with brownish crossband (Plate 8s). ..... 144. *E. hymettana* (Knoll)

147'. Aedeagal shaft with lateral lobes widest at middle of shaft (Fig. 145e). Mesonotum with reddish apex. Forewing with usual maculate pattern (Plate 9a). . 145. *E. lawsoni* (Robinson)

148(139). Pygofer appendage distinctly curved downward at angle of about 45° or more from horizontal (Fig. 146a). ..... 146. *E. continua* (Knoll & Auten)

148'. Pygofer appendage straight in lateral view, or only slightly curved downward (Fig. 147a). ..... 149

149(148). Preatrium distinctly shorter than aedeagal shaft (Fig. 147d, 148d). ..... 150

149'. Preatrium as long as or longer than aedeagal shaft (Fig. 153d). ..... 155

150(149). Pygofer appendage distinctly sinuate (Fig. 147b). ..... 147. *E. valida* (Knoll)

150'. Pygofer appendage straight or slightly evenly curved (Fig. 149b). ..... 151

151(150). Angle between basal and third points of style apex about 90° (Fig. 148c). Dorsal apodeme of aedeagus less than half as long as shaft (Fig. 148d). .. 148. *E. pamela* (Hepner)

151'. Angle between basal and third points of style apex less than 90° (Fig. 151c). Dorsal apodeme of aedeagus more than half as long as shaft (Fig. 151d). ..... 152

152(151). Angle between basal and third points of style apex less than 45° (Fig. 149c). Aedeagal shaft strongly curved dorsad (Fig. 149d). ..... 149. *E. protuma* (Ross)

152'. Angle between basal and third points of style apex more than 45° (Fig. 151c). Aedeagal shaft straight or only slightly curved dorsad (Fig. 151d). ..... 153

153(152). Aedeagal shaft round in crossection, dorsal margin sinuate near apex in lateral view, with distinct lateral lobes near base (Fig. 150d, e). .... 150. *E. havana* (Ross & DeLong)

153'. Aedeagal shaft depressed, dorsal margin straight or evenly curved ventrad near apex in lateral view, parallel sided in dorsal view (Fig. 151d, e). ..... 154

154(153). Pygofer appendage strongly extended beyond pygofer apex (at least 5 times of appendage width) (Fig. 151a). Tip of aedeagal shaft curved ventrad (Fig. 151d). Larger (3–3.2 mm). ..... 151. *E. gemoides* (Ross)

154'. Pygofer appendage not or only slightly extended beyond pygofer apex (Fig. 152a). Tip of aedeagal shaft straight in lateral view (Fig. 152d). Smaller (2.7–3 mm). ..... 152. *E. gemina* (McAtee)

155(149). Dorsal apodeme of aedeagus not extended posterad along aedeagal shaft in lateral view (Fig. 153d, 154d). ..... 156

155'. Dorsal apodeme of aedeagus extended posterad along aedeagal shaft in lateral view (Fig. 155d). ..... 157

156(155). Aedeagal shaft round in crossection, straight in lateral view; dorsal apodeme expanded laterad (Fig. 153d, e). ..... 153. *E. malaca* (Knoll)

156'. Aedeagal shaft depressed, curved dorsad; dorsal apodeme not expanded laterad (Fig. 154d, e). ..... 154. *E. penesica* (Beamer)

157(155). Aedeagal shaft depressed, without lateral lobes (Fig. 155d, e, 156d, e). ..... 158

157'. Aedeagal shaft round in crossection or compressed, with lateral lobes at base (Fig. 157d, e). ..... 159

158(157). Aedeagal shaft oval in ventral view, largely denticulate (Fig. 155e). Forewing with large reddish maculae (Plate 9k). ..... 155. *E. parallela* (McAtee)

158'. Aedeagal shaft parallel sided in ventral view, denticulate only at apex (Fig. 156e). Forewing with small reddish maculae (Plate 9l). ..... 156. *E. severini* (Knoll)

159(157). Third point of style apex more than 1.5 times as long as distance between other two points (Fig. 157c). Aedeagal shaft slightly curved dorsad, with pointed apex in lateral view (Fig. 157d). ..... 157. *E. claroides* (Hepner)

159'. Third point of style apex less than 1.5 times as long as distance between other two points (Fig. 158c). Aedeagal shaft straight in lateral view, with apex usually curved ventrad and truncate (Fig. 158d). ..... 160

160(159). Pygofer appendage slightly curved upward and denticulate distally (Fig. 158a). Mesonotum with dark brown lateral triangles and apex. Forewing with fuscous crossband (Plate 9n). ..... 158. *E. lunata* (McAtee)

160'. Pygofer appendage straight or curved downward, not denticulate (Fig. 160a). Mesonotum with reddish lateral triangles and apex. Forewing with usual maculate color pattern (Plate 9o). ..... 161

161(160). Aedeagal shaft narrowing towards apex in lateral view, slender (Fig. 159d). Third point of style apex longer than distance between other two points (Fig. 159c). ..... 159. *E. adunca* (Beamer)

161'. Aedeagal shaft parallel sided in lateral view, stout (Fig. 160d). Third point of style apex not longer than distance between other two points (Fig. 160c). ..... 160. *E. curta* (Beamer)

162(118). Aedeagal shaft strongly curved dorsad ( $> 45^\circ$ ) (Fig. 161d, 162d). ..... 163

162'. Aedeagal shaft straight or only slightly curved in lateral view (Fig. 164d, 165d). ..... 165

163(162). Aedeagal shaft evenly curved in distal half, with large lateral lobes, without dorsal carina (Fig. 161d, e). ..... 161. *E. ballista* (Beamer)

163'. Aedeagal shaft curved in basal half, straight in distal half, without lateral lobes, with large dorsal carina (Fig. 162d, e). ..... 164

164(163). Pygofer appendage strongly sinuate (Fig. 162a, b). Third point of style curved (Fig. 162c). ..... 162. *E. rostrata* (Beamer)

164'. Pygofer appendage straight (Fig. 163a, b). Third point of style straight (Fig. 163c). ..... 163. *E. penerostrata* (Beamer)

165(162). Third point of style apex not longer than 1/3 distance between other two points (Fig. 164c, 168c). ..... 166

165'. Third point of style apex longer than 1/3 distance between other two points (Fig. 179c, 181c). ..... 181

166(165). Pygofer appendage straight or slightly curved outward in dorsal view (Fig. 166b). ..... 167

166'. Pygofer appendage distinctly sinuate or curved inward in dorsal view (Fig. 171b). ..... 171

167(166). Aedeagal shaft curved dorsad (Fig. 164d). ..... 164. *E. emqua* (Ross & DeLong)

167'. Aedeagal shaft straight in lateral view or curved ventrad (Fig. 165d). ..... 168

168(167). Aedeagal shaft compressed (Fig. 165d, e). Forewing with 3 narrow crossbands (Plate 9u). ..... 165. *E. trivittata* (Robinson)

168'. Aedeagal shaft round in crosssection (Fig. 166d, e). Forewing without crossbands or with single crossband not reaching lateral margin of wing (Plate 10a). ..... 169

169(168). Pygofer appendage strongly extended beyond pygofer apex (at least 5 times of appendage width) (Fig. 166a). Preatrarium about as long as aedeagal shaft; dorsal apodeme short (Fig. 166d). ..... 166. *E. anseri* (Hepner)

169'. Pygofer appendage only slightly, if any, extended beyond pygofer apex (Fig. 167a, 168a). Preatrarium longer than aedeagal shaft; dorsal apodeme long (Fig. 167d). ..... 170

170(169). Apex of aedeagal shaft curved ventrad (Fig. 167d). Third point of style apex not longer than 1/4 distance between other two points (Fig. 167c). Clavus often with red spot (Plate 10a). ..... 167. *E. stoveri* (Ross & DeLong)

170'. Apex of aedeagal shaft straight in lateral view (Fig. 168d). Third point of style 1/3 or more as long as distance between other two points (Fig. 168c). Forewing with usual maculate pattern (Plate 10b). ..... 168. *E. campora* (Robinson)

171(166). Aedeagal shaft depressed, broadened distally in ventral view (Fig. 169d, e). ..... 169. *E. spinifera* (Beamer)

171'. Aedeagal shaft not depressed, parallel sided or narrowing towards apex in ventral view (Fig. 171d, e). ..... 172

172(171). Dorsal apodeme of aedeagus not extended posterad along aedeagal shaft in lateral view, strongly extended laterad, rounded distally in dorsal view; shaft with denticulate lateral lobes (Fig. 170d, e). ..... 170. *E. comoides* (Ross & DeLong)

172'. Dorsal apodeme of aedeagus extended well posterad along aedeagal shaft in lateral view. Lateral lobes of aedeagus, if present, not denticulate (Fig. 172d, e). ..... 173

173(172). Second point of style apex long and slender, about as long as third (Fig. 171c). Forewing with red zigzag pattern (Plate 10d). Aedeagal shaft distinctly curved dorsad (Fig. 171d). ..... 171. *E. confirmata* (McAtee)

173'. Second point of style apex shorter than third (Fig. 172c). Forewing with crossband or usual maculate pattern (Plate 10h, i). ..... 174

174(173). Pygofer appendage strongly extended beyond pygofer apex (at least 5 times of appendage width) (Fig. 172a). ..... 175

174'. Pygofer appendage only slightly, if any, extended beyond pygofer apex (Fig. 174a). ..... 177

175(174). Aedeagal shaft distinctly compressed, broad in lateral view, without lateral lobes, denticulate throughout entire length (Fig. 172d, e). ..... 172. *E. phellos* (Ross & DeLong)

175'. Aedeagal shaft round in crossection or only slightly compressed, slender in lateral view, usually with small lateral lobes, denticulate in distal half only (Fig. 173d, e). ..... 176

176(175). Pygofer appendage strongly sinuate in dorsal view (Fig. 105b). Forewing usually with red crossband (Plate 7b). ..... 105. *E. era* (McAtee)

176'. Pygofer appendage only slightly sinuate in dorsal view (Fig. 173b). Forewing with usual maculate color pattern (Plate 10f). ..... 173. *E. bigemina* (McAtee)

177(174). Margin between first and second points of style apex convex (Fig. 174c). Aedeagal shaft compressed, slightly curved dorsad (Fig. 174d, e). Pygofer appendage sinuate near apex (Fig. 174a, b). ..... 174. *E. mensa* (Beamer)

177'. Margin between first and second points of style apex straight or concave (Fig. 175c). Aedeagal shaft round in crossection, straight in lateral view (Fig. 175d, e). Pygofer appendage straight or evenly curved in distal half (Fig. 175a, b). ..... 178

178(177). Angle between basal and third points of style apex about 90° (Fig. 175c, 176c). Preatrium not longer than aedeagal shaft (Fig. 175d). Forewing usually with crossband (Plate 10h, i). ..... 179

178'. Angle between basal and third points of style apex less than 90° (Fig. 177c). Preatrium distinctly longer than aedeagal shaft (Fig. 177d). Forewing with usual maculate color pattern (Plate 10j). ..... 180

179(178). Pygofer appendage compressed (Fig. 175a, b). Dorsal apodeme of aedeagus with truncate posterior margin (Fig. 175e). Forewing usually with brownish basal half (Plate 10h). ..... 175. *E. basilaris* (Say)

179'. Pygofer appendage round in crossection (Fig. 176a, b). Dorsal apodeme of aedeagus with prominent posterior margin (Fig. 176e). Forewing usually with narrow red crossband (Plate 10i). ..... 176. *E. micheneri* (Hepner)

180(178). Pygofer appendage round in crossection (Fig. 177a, b). Second point of style apex distinctly enlarged (Fig. 177c). ..... 177. *E. lucyae* (Hepner)

180'. Pygofer appendage compressed (Fig. 178a, b). Second point of style apex not enlarged (Fig. 178c). ..... 178. *E. guicei* (Hepner)

181(165). Aedeagal shaft very broad in ventral view, about as wide as long (Fig. 179d, e). ..... 179. *E. lundi* (Hepner)

181'. Aedeagal shaft slender, longer than wide (Fig. 181d, e). ..... 182

182(181). Tip of aedeagal shaft abruptly bent dorsad at sharp angle (Fig. 180d). ..... 180. *E. marra* (Beamer)

182'. Tip of aedeagal shaft not bent dorsad (Fig. 181d). ..... 183

183(182). Preatrium only half as long as aedeagal shaft (Fig. 181d). Pygofer appendage straight in basal 2/3, apex abruptly curved inward at right angle (Fig. 181b). ..... 181. *E. staminea* (Knoll)

183'. Preatrium as long as or longer than aedeagal shaft (Fig. 182d). Pygofer appendage not as above. ..... 184

184(183). Pygofer appendage strongly curved downward at almost right angle, compressed (Fig. 182a, b). Forewing usually with darkened basal half (Plate 10o). .... 182. *E. unca* (Knoll)

184'. Pygofer appendage usually straight or only slightly curved downward (Fig. 184a, b). Forewing with different color pattern. ..... 185

185(184). Pygofer appendage strongly sinuate near apex; apex curved upward in lateral view (Fig. 183a, b). ..... 183. *E. dumosa* (Beamer)

185'. Pygofer appendage straight or evenly curved downward in lateral view (Fig. 185a). ..... 186

186(185). Margin between first and second points of style apex convex (Fig. 184c). Forewing with continuous zigzag pattern (Plate 10q). ..... 184. *E. ligata* (McAtee)

186'. Margin between first and second points of style apex straight or concave (Fig. 185c). Forewing with usual maculate color pattern or with crossbands (Plate 10r). ..... 187

187(186). Aedeagal shaft with large lateral lobes reaching shaft apex (Fig. 185e, 186e). ..... 188

187'. Lateral lobes of aedeagal shaft, if present, small, not reaching shaft apex (Fig. 188e). .... 189

188(187). Pygofer appendage compressed, abruptly narrowing near middle in lateral view (Fig. 185a). Lateral lobes of aedeagal shaft angulate (Fig. 185e). ..... 185. *E. contracta* (Beamer)

188'. Pygofer appendage not compressed, evenly tapered towards apex (Fig. 186a). Lateral lobes of aedeagal shaft rounded (Fig. 186e). ..... 186. *E. vittata* (Knoll & Auten)

189(187). Angle between basal and third points of style apex about 45° (Fig. 187c). ..... 187. *E. biramosa* (Beamer)

189'. Angle between basal and third points of style apex about 90° (Fig. 188c). ..... 190

190(189). Pygofer appendage slightly curved outward in dorsal view (Fig. 168b, 188b). ..... 191  
 190'. Pygofer appendage straight or curved inward in dorsal view (Fig. 189b, 190b). ..... 192

191(190). Pygofer appendage abruptly curved down near middle length (Fig. 188a). Aedeagal shaft compressed (Fig. 188d, e). ..... 188. *E. smithi* (Ross)

191'. Pygofer appendage straight in lateral view (Fig. 168a). Aedeagal shaft round in crossection (Fig. 168d, e). ..... 168. *E. campora* (Robinson)

192(190). Pygofer appendage in dorsal view strongly sinuate basally, straight in distal half (Fig. 189b). Aedeagal shaft compressed (Fig. 189d, e). ..... 189. *E. prolixa* (Knoll)

192'. Pygofer appendage in dorsal view evenly curved or curved in distal half (Fig. 190b, 192b). Aedeagal shaft not compressed (Fig. 190d, e). ..... 193

193(192). Pygofer appendage strongly curved inward in dorsal view, forming semicircle. Aedeagus in lateral view with dorsal apodeme extended more than half distance to apex of shaft (Fig. 190b). ..... 190. *E. teres* (Beamer)

193'. Pygofer appendage curved less strongly inward in dorsal view. Aedeagus in lateral view with dorsal apodeme extended less than half distance to apex of shaft (Fig. 191b). ..... 194

194(193). Second point of style apex well developed (Fig. 191c). Forewing with 3 narrow crossbands (Plate 11f). ..... 191. *E. amethica* (Ross)

194'. Second point of style apex small toothlike (Fig. 192c). Forewing without crossbands (Plate 11h). ..... 195

195(194). Pygofer appendage arising in basal third of dorsal margin of pygofer lobe (Fig. 194a). ... ..... 196

195'. Pygofer appendage arising at middle of dorsal margin of pygofer lobe (Fig. 196a<sub>2</sub>). ..... 198

196(195). Third point of style apex short and broad, only twice as long as basal width (Fig. 192c). Smaller (2.8–2.9 mm). ..... 192. *E. tenuitas* (Knoll)

196'. Third point of style apex longer, more than 3 times longer than basal width (Fig. 193c). Larger (3–3.3 mm). ..... 197

197(196). Preatrium longer than aedeagal shaft; shaft narrower than preatrium (Fig. 193d). Pygofer appendage almost straight in dorsal view (Fig. 193b). ..... 193. *E. haysensis* (Hepner)

197'. Preatrium about as long as aedeagal shaft; shaft about as wide as preatrium (Fig. 194d). Pygofer appendage distinctly sinuate (Fig. 194b). ..... 194. *E. geronimo* (Knoll)

198(195). Dorsal apodeme of aedeagus not extended posterad along aedeagal shaft in lateral view (only compressed anterior extension of dorsal apodeme extended) (Fig. 195d). Third point of style apex more than half as long as distance between other two points (Fig. 195c). ..... 195. *E. macra* (Beamer)

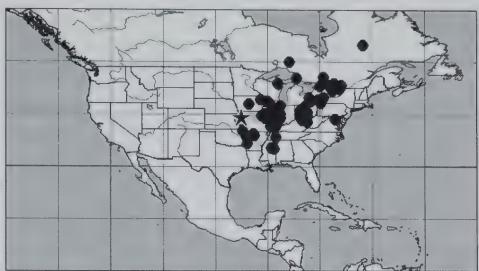
198'. Dorsal apodeme of aedeagus well extended posterad along aedeagal shaft in lateral view (Fig. 196d). Third point of style apex not more than half as long as distance between other two points (Fig. 196c). ..... 199

199(198). Pygofer appendage slightly compressed basally, distinctly sinuate in dorsal view, denticulate apically (Fig. 196a, b). Color pattern usual for genus (Plate 11k). ..... 196. *E. socia* (Knoll)

199'. Pygofer appendage not compressed, straight in dorsal view, not denticulate (Fig. 197a, b). Vertex, pro-, and mesonotum usually with broad red stripe. Clavus with red spot at apex (Plate 11). ..... 197. *E. accola* (McAtee)

**1. *Eratoneura dira* (Beamer, 1931) (Fig. 1, Plate 2a)**

*Erythroneura dira* Beamer, 1931d:286  
*Erythroneura (Eratoneura) dira* Young, 1952b:86  
*Erythroneura deklei* Hepner, 1967a:20, **syn.n.**  
*Erythroneura denmarki* Hepner, 1967a:20, **syn.n.**  
*Erythroneura siloamensis* Hepner, 1967a:22, **syn.n.**  
*Eratoneura dira* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.4–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple with additional small process at base, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus parallel sided, connection to pygofer membranous; preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, without processes; apex broadened in ventral view. Coloration usual for genus. Dorsum yellow or white, with orange color pattern. Vertex with orange parallel submedial lines, with lateral branch; midline pale. Anteclypeus pale, concolorous with rest of face. Pronotum with Y- or V-shaped medial vitta. Mesonotum pale, with orange lateral triangles and apex. Thoracic venter entirely pale. Forewings with broken oblique vittae, without crossbands; clavus with separate basal and distal vittae; with dark spot near costal margin; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Ostrya virginiana*, *Corylus americana*, *Carpinus* sp.

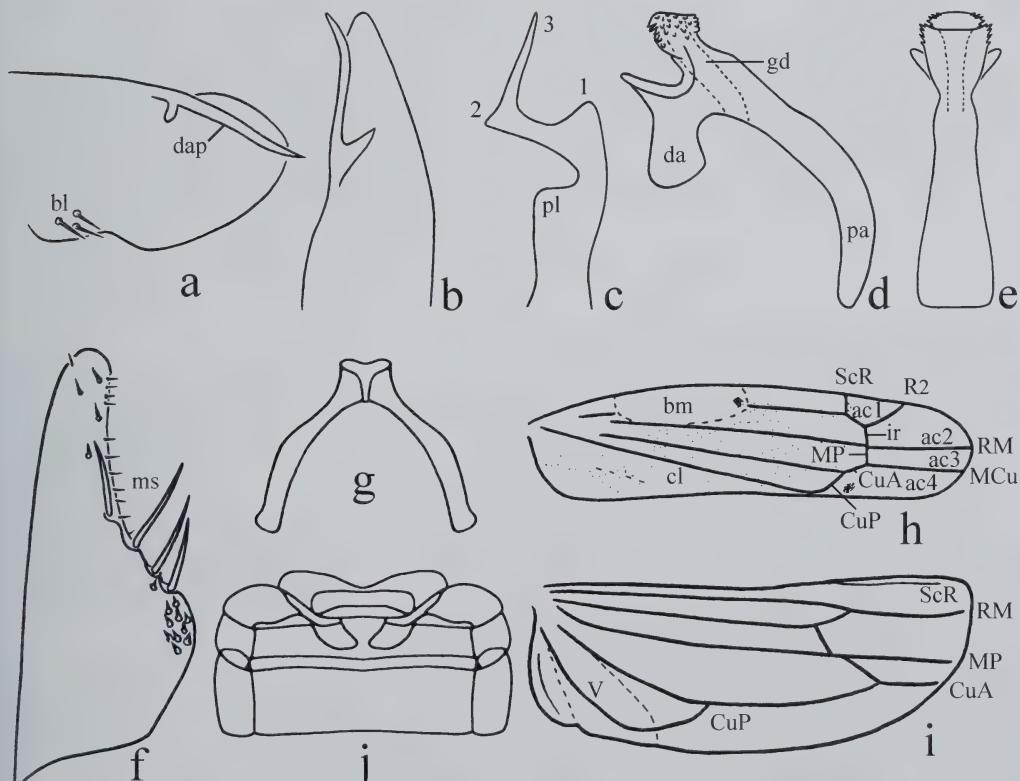


Figure 1. *E. dira* (Beamer). a – pygofer lobe, lateral view; b – same, dorsal view; c – style; d – aedeagus, lateral view; e – same, ventral view; f – genital plate, ventral view; g – connective; h – forewing; i – hind wing; j – sternal abdominal apodemes (2S apodemes). Abbreviations: ac1–ac4 – apical cells; bl – basolateral macrochaetae; bm – brochosome field; cl – clavus; da – dorsal apodeme; dap – appendage; gd – gonoduct; ir – interradial crossvein; ms – basal macrosetae; pa – preatrium; pl – preapical lobe.

**2. *Eratoneura gillettei* (Beamer, 1931) (Fig. 2, Plate 2b)**

*Erythroneura gillettei* Beamer, 1931a:128

*Erythroneura (Eratoneura) gillettei* Young, 1952b:88

*Eratoneura gillettei* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.9–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, smooth, with small dorsal distal lobe; apex broadened in ventral view; basal processes arising near midlength of shaft and evenly divergent, distal processes long, apical, slender. Coloration usual for genus; vertex and pronotum with median stripe.

**Type locality:** Holotype ♂, USA, Illinois, Wabash Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** Unknown.

**Notes:** The holotype was collected on 31 III 1929, not on 30 III 1929 as stated in the original publication.

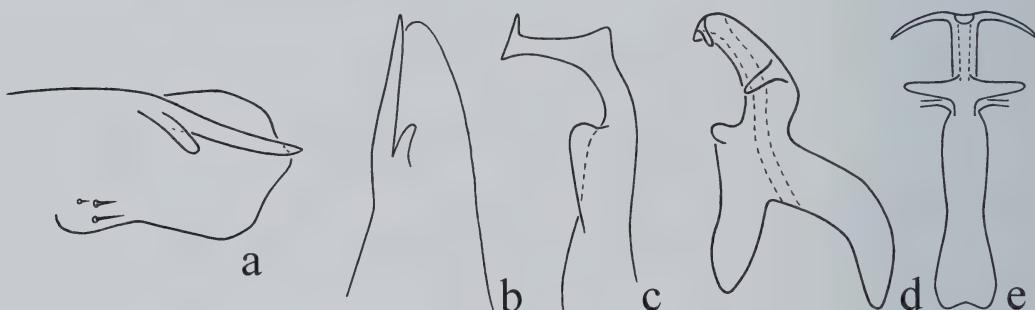


Figure 2. *E. gillettei* (Beamer). c – holotype; a, b, d, e – paratype.

**3. *Eratoneura imbricariae* (Ross & DeLong, 1953) (Fig. 3, Plate 2c)**

*Erythroneura imbricariae* Ross & DeLong, 1953a:86

*Eratoneura imbricariae* Dietrich & Dmitriev,

2006a:136

**Description:** Length 2.8–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved ventrad, slender in lateral view, depressed, smooth; apex acuminate in ventral view; basal processes well separated from shaft, shorter than shaft, evenly divergent; distal processes long, subapical, slender. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Wayne Co., Fairfield, on *Quercus imbricaria*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus imbricaria*.



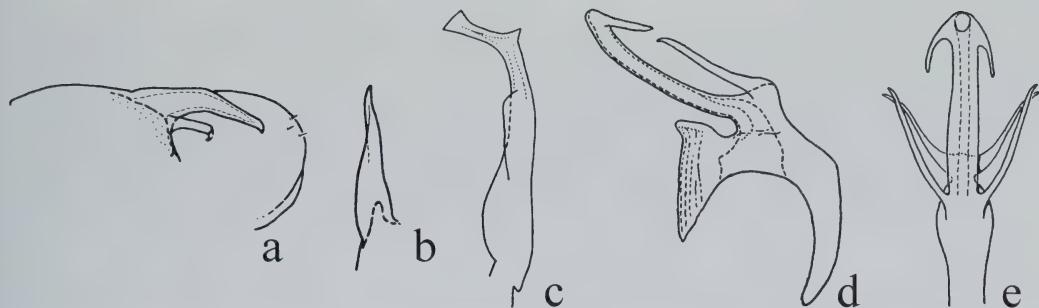
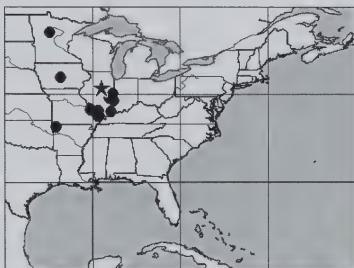


Figure 3. *E. imbricariae* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

**4. *Eratoneura lamucata* (Ross & DeLong, 1953) (Fig. 4, Plate 2d)**

*Erythroneura lamucata* Ross & DeLong, 1953a:88  
*Eratoneura lamucata* Dietrich & Dmitriev,  
 2006a:136



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points. Angle between basal and third points about 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, depressed, smooth, with lateral lobes at base; apex blunt in ventral view, abruptly bent dorsad; basal processes absent, distal processes long, apical, slender. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, McLean Co., Lake Bloomington, on *Rhus toxicodendron*, 29 IX 1950 (Ross & Stannard), (INHS).

**Distribution:** North central USA.

**Host plants:** *Toxicodendron radicans*.

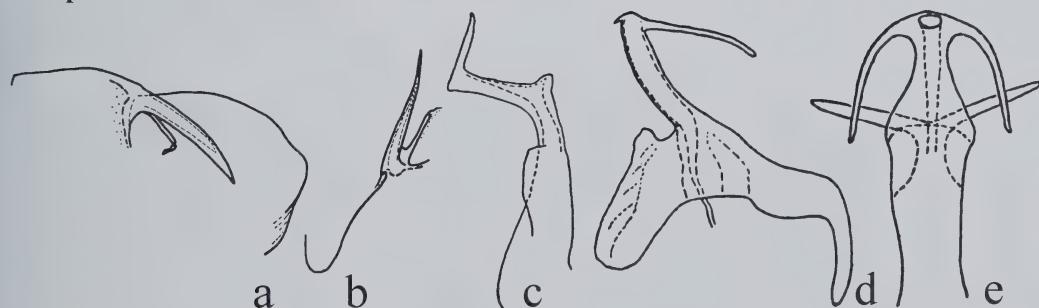
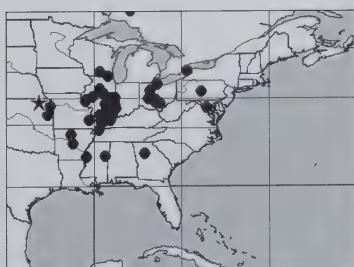


Figure 4. *E. lamucata* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

**5. *Eratoneura maculata* (Gillette, 1898) (Fig. 5, Plate 2e)**

*Typhlocyba comes* var. *maculata* Gillette, 1898a:764  
*Typhlocyba maculata* Baker, 1903d:8  
*Erythroneura comes* var. *maculata* Van Duzee,  
 1916a:77  
*Erythroneura (Eratoneura) maculata* Young,  
 1952b:88  
*Eratoneura maculata* Dietrich & Dmitriev,  
 2006a:137



**Description: Length**

2.7–2.9 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved ventrad, slender in lateral view, depressed, smooth, with lateral lobes at base; apex blunt in ventral view, abruptly bent dorsad; basal processes absent; distal processes long, apical, slender. Coloration usual for genus.

**Type locality:** Syntypes 2 ♂, USA, Kansas, Pottawatomie Co., Onaga, (Crevecoeur), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada

**Host plants:** *Toxicodendron radicans*.

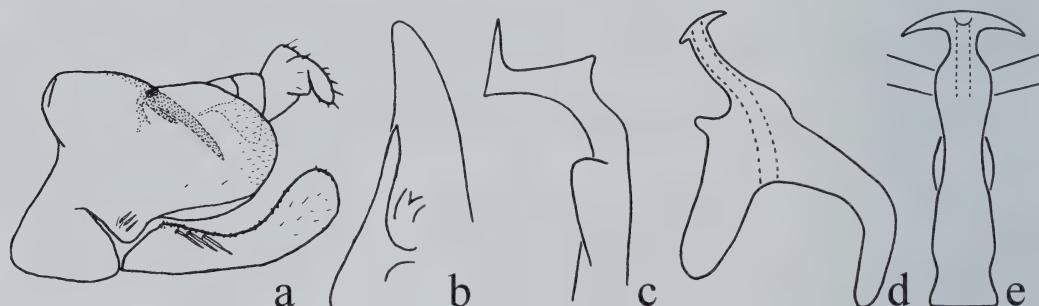
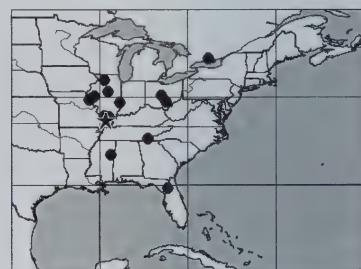


Figure 5. *E. maculata* (Gillette). a – from Dietrich & Dmitriev (2006a).

**6. *Eratoneura eversi* (Ross & DeLong, 1953) (Fig. 6, Plate 2f)**

*Erythroneura eversi* Ross & DeLong, 1953a:88

*Eratoneura eversi* Dietrich & Dmitriev, 2006a:135



**Description: Length** 2.4–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points more than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, depressed, smooth; apex broadened in ventral view; basal processes absent; distal processes long, subapical, slender. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Alexander Co., N.W. Tamms, on *Corylus americana*, 20 IX 1950 (Ross & Evers), (INHS).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Corylus americana*.

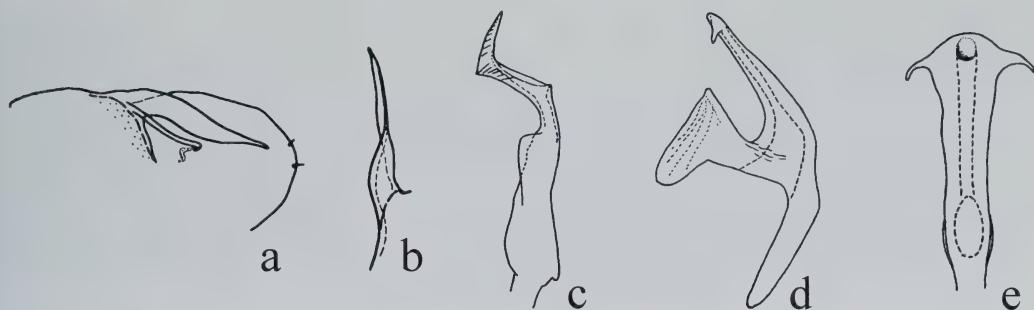


Figure 6. *E. eversi* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

**7. *Eratoneura noncuspidis* (Beamer, 1931) (Fig. 7, Plate 2g)**

*Erythroneura noncuspidis* Beamer, 1931a:129

*Erythroneura noncuspidis* DeLong & Caldwell, 1937c:76, missp.

*Erythroneura (Eratoneura) noncuspidis* Young, 1952b:88

*Eratoneura noncuspidis* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.9–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, depressed, smooth, with lateral lobes at base; apex truncate in ventral view; basal processes absent; distal processes long, apical, slender. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Lawrence Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Toxicodendron radicans*.

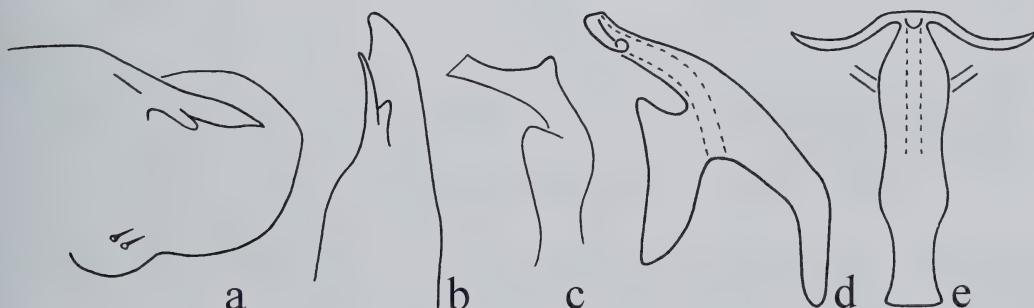


Figure 7. *E. noncuspidis* (Beamer).

**8. *Eratoneura teshi* (Hepner, 1972) (Fig. 8, Plate 2h)**

*Erythroneura teshi* Hepner, 1972c:267

*Eratoneura teshi* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points about 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved ventrad, slender in lateral view, depressed, denticulate distally; apex emarginate in ventral view; basal processes absent; distal processes long, apical, slender. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 28 I 1962 (Hepner), (INHS).

**Distribution:** Central USA.

**Host plants:** *Ulmus rubra*.

**Notes:** The type locality recorded in the original publication was: Illinois, Piatt Co., Monticello, Allerton Park, on *Ulmus rubra*, 26 IX 1960 (Cunningham).

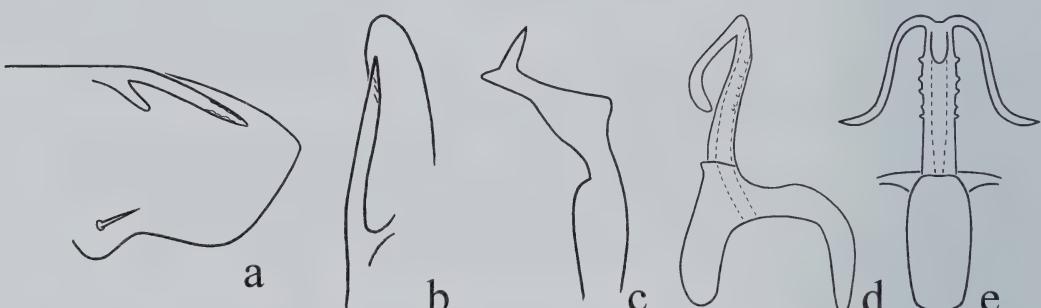


Figure 8. *E. teshi* (Hepner). a, c–e – paratype; b – from Hepner (1972c).

**9. *Eratoneura osborni* (DeLong, 1916) (Fig. 9, Plate 2i)**

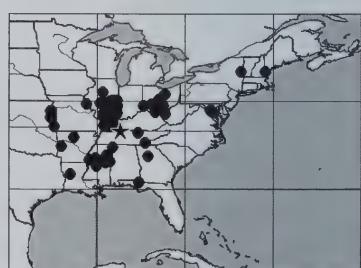
*Typhlocyba osborni* DeLong, 1916a:103

*Erythroneura osborni* Van Duzee, 1917b:712

*Erythroneura basilaris* var. *dulcis* McAtee, 1920a:296,  
syn.n. (Plate 2i<sub>2</sub>)

*Erythroneura (Eratoneura) osborni* Young, 1952b:88

*Eratoneura osborni* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at middle. Second point of style apex very short, tooth-like; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad at apex, slender in lateral view, round in cross-section, denticulate distally; apex blunt in ventral view; basal processes arising close to shaft, shorter than shaft, divergent at base, thence parallel; distal processes absent. Forewing with broad red or reddish crossband in basal third.

**Type locality:** Holotype ♂, USA, Tennessee, Montgomery Co., Clarksville, 22 VII 1915 (DeLong), (OSU).

**Distribution:** Central and northeastern USA.

**Host plants:** *Carya ovata*, *C. illinoiensis*, *C. ovalis*, *C. glabra*, *C. tomentosa*, *C. leiodermis*, and other species of *Carya*.

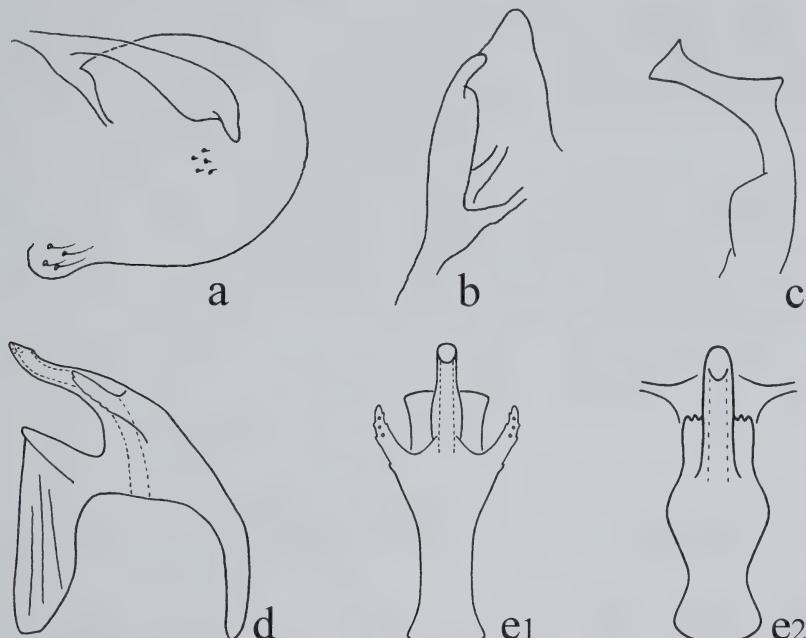


Figure 9. *E. osborni* (DeLong). e<sub>1</sub>–e<sub>2</sub> – variation of shape of the aedeagus basal processes; e<sub>2</sub> – unusual form; a, b – from Hepner (unpublished).

10. *Eratoneura sandersoni* (Ross, 1956) (Fig. 10, Plate 2j)

*Erythroneura sandersoni* Ross, 1956a:90

*Eratoneura sandersoni* Dietrich & Dmitriev,  
1996a:138



**Description:** Length 2.9–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at middle, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with dorsal carina, often with lateral lobes at base; apex acuminate or blunt in ventral view; basal processes well separated from shaft, parallel to each other on ventral side of shaft, short, toothlike; distal processes absent. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Hardin Co., Elizabethtown, on *Acer* sp., 27 VII 1951 (Richards & Sanderson), (INHS).

**Distribution:** Illinois.

**Host plants:** *Acer saccharum*.

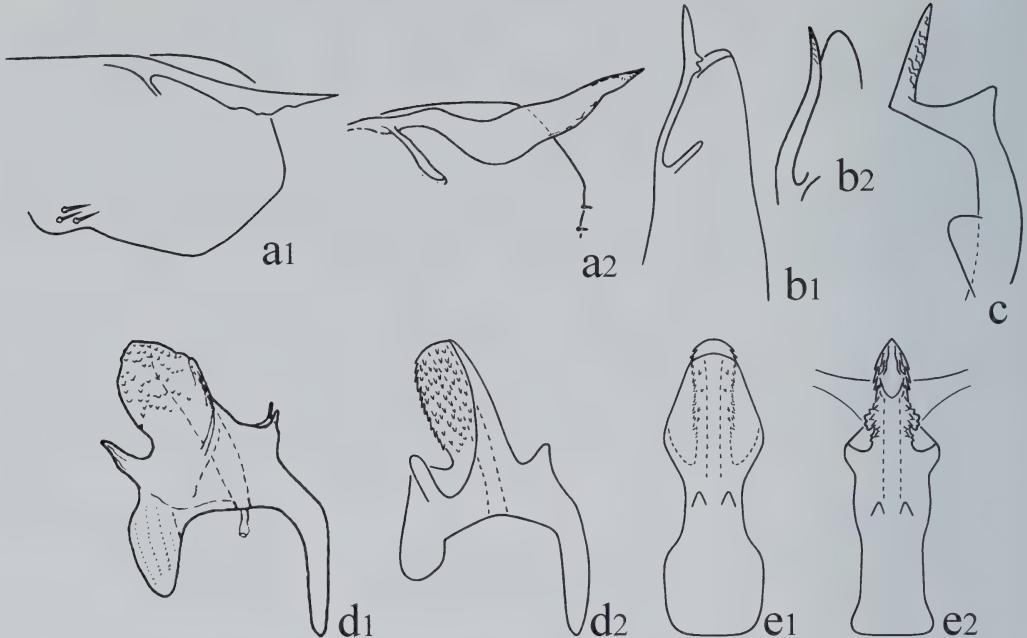


Figure 10. *E. sandersoni* (Ross). a1–b2, – variation of shape of the pygofer appendage; d1–e2 – variation of shape of aedeagus; a2, d1 – from Ross (1956a); e2 – holotype.

### 11. *Eratoneura crinita* (Beamer, 1932) (Fig. 11, Plate 2k)

*Erythroneura crinita* Beamer, 1932e:85

*Erythroneura (Eratoneura) crinita* Young, 1952b:88

*Eratoneura crinita* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base, with ring of long spines near mid-length. Second and third points of style apex very short, toothlike. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with dorsal carina; apex acuminate in ventral view; basal processes arising close to shaft, shorter than shaft, slightly divergent, appressed to sides of shaft; distal processes absent. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Arkansas, Searcy Co., Marshall, 22 III 1931 (Nottingham), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Castanea pumila*.

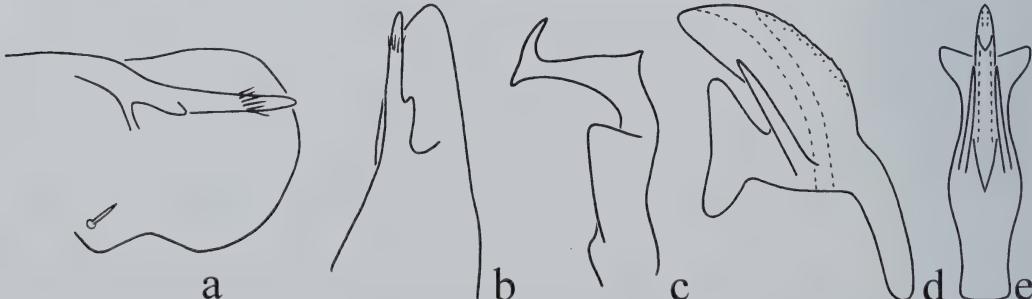


Figure 11. *E. crinita* (Beamer). c – holotype; d – paratype.

**12. *Eratoneura andersoni* (Beamer, 1932) (Fig. 12, Plate 2I)**

*Erythroneura andersoni* Beamer, 1932e:86

*Erythroneura (Eratoneura) andersoni* Young,  
1952b:88

*Eratoneura andersoni* Dietrich & Dmitriev,  
2006a:134



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base, with ring of long spines near midlength. Second and third points of style apex very short, toothlike. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; preatrium shorter than shaft; shaft straight and slender in lateral view, compressed, smooth, with small dorsal distal lobe; apex acuminate in ventral view; basal processes arising close to shaft, almost as long as shaft, parallel to each other on ventral side of shaft; distal processes absent. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Arkansas, Searcy Co., Marshall, 22 III 1931 (Anderson), (KSEM).

**Distribution:** South central and southeastern USA.

**Host plants:** Unknown.

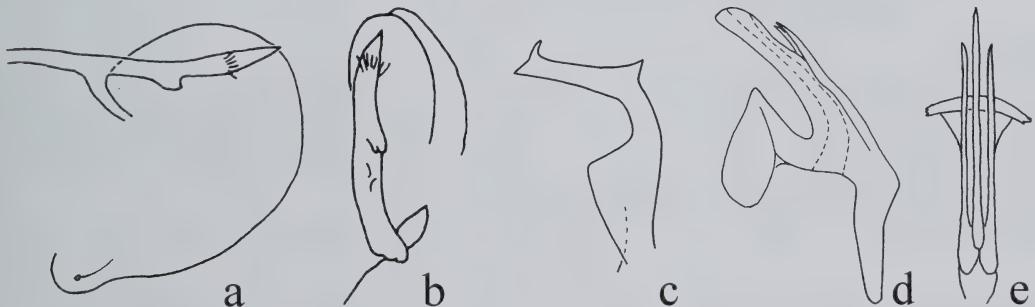


Figure 12. *E. andersoni* (Beamer). c – paratype; a, b – from Hepner (unpublished).

**13. *Eratoneura paraesculi* (Knoll, 1945) (Fig. 13, Plate 2m)**

*Erythroneura paraesculi* Knoll, 1945b:106

*Erythroneura (Eratoneura) paraesculi* Young,  
1952b:88

*Eratoneura paraesculi* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 3.5–3.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and broad in lateral view, compressed, denticulate distally; aedeagal apex broadened in ventral view; basal processes arising close to shaft, shorter than shaft, divergent at base, curved posterad; distal processes absent. Forewings with 2 crossbands not reaching lateral margins.

**Type locality:** Holotype ♂, USA, Tennessee, Sevier Co., Great Smoky Mountain National Park, Indian Gap, 5000 to 6000 ft., on *Aesculus* sp., 21 VI 1942 (Knoll), (OSU).

**Distribution:** South of central USA.

**Host plants:** Unknown, the holotype was collected on *Aesculus* sp.

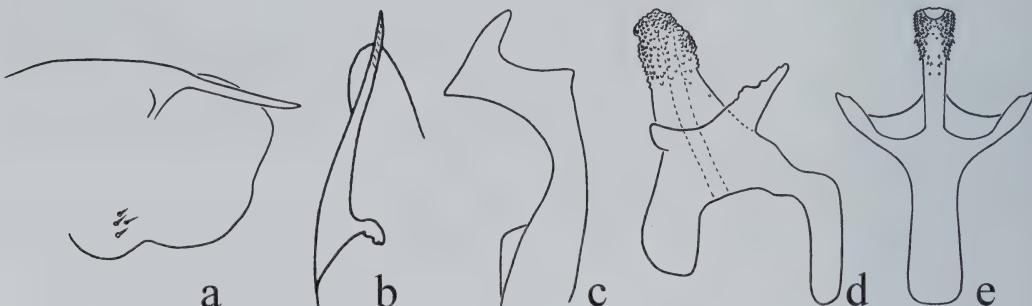


Figure 13. *E. paraesculi* (Knoll). a, c–e – holotype; b – from Hepner (unpublished).

14. *Eratoneura tammina* (Ross & DeLong, 1953) (Fig. 14, Plate 2n)

*Erythroneura tammina* Ross & DeLong, 1953a:86  
*Eratoneura tammina* Dietrich & Dmitriev,  
2006a:138



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft straight and slender in lateral view, depressed, denticulate distally; apex truncate in ventral view; basal processes arising close to shaft, shorter than shaft, parallel to each other on ventral side of shaft or slightly divergent; distal processes absent. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Alexander Co., N.W. Tamms, 20 IX 1950 (Ross & Evers), (INHS).

**Distribution:** South of central USA.

**Host plants:** *Quercus stellata*, *Q. michauxii*, *Q. lyrata*, *Q. falcata*, and other species of *Quercus*.

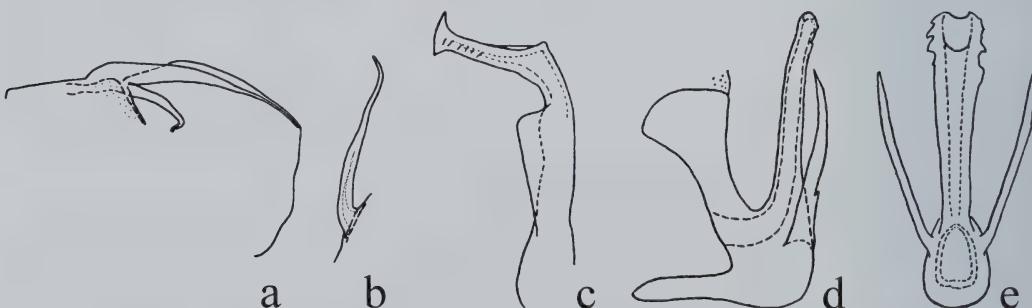


Figure 14. *E. tammina* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

15. *Eratoneura texana* (Beamer, 1929) (Fig. 15, Plate 2o)*Erythroneura texana* Beamer, 1929b:121*Erythroneura (Eratoneura) texana* Young, 1952b:88*Eratoneura texana* Dietrich & Dmitriev, 2006a:139

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage simple, extended to pygofer apex, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, denticulate distally; basal processes well separated from shaft, short, parallel to each other on ventral side of shaft; distal processes absent. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Texas, Culberson Co., 10 VII 1927 (Beamer), (KSEM).

**Distribution:** The species is known only from the type locality in Texas.

**Host plants:** Unknown.

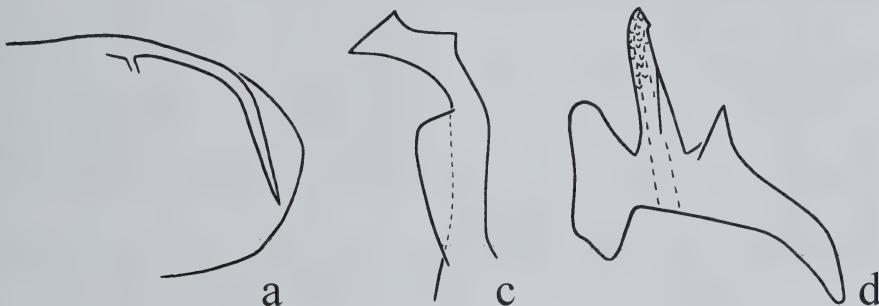


Figure 15. *E. texana* (Beamer). d – holotype.

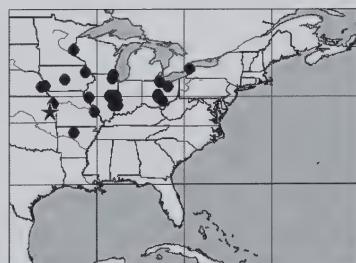
16. *Eratoneura separata* (Beamer, 1932) (Fig. 16, Plate 2p)*Erythroneura separata* Beamer, 1932a:12*Erythroneura (Eratoneura) separata* Young, 1952b:88*Eratoneura separata* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate near base, branches parallel to each other, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex broadened in ventral view, bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** North central USA, southeastern Canada.

**Host plants:** *Tilia americana*.



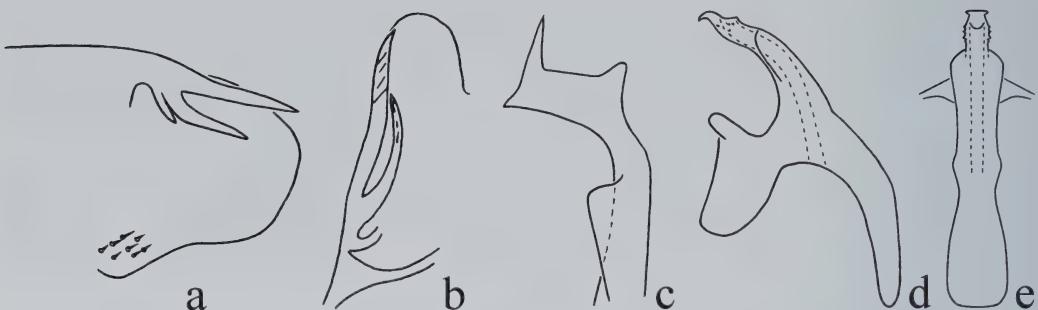


Figure 16. *E. separata* (Beamer). a, c – paratype; b – from Hepner (unpublished).

17. *Eratoneura curvata* (Beamer, 1931) (Fig. 17, Plate 2q)

*Erythroneura curvata* Beamer, 1931a:132

*Erythroneura (Eratoneura) curvata*

Young, 1952b:86

*Eratoneura curvata* Dietrich & Dmitriev,

2006a:135



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage bifurcate near base, branches parallel to each other, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point absent or short toothlike; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., 1927, (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus macrocarpa*.

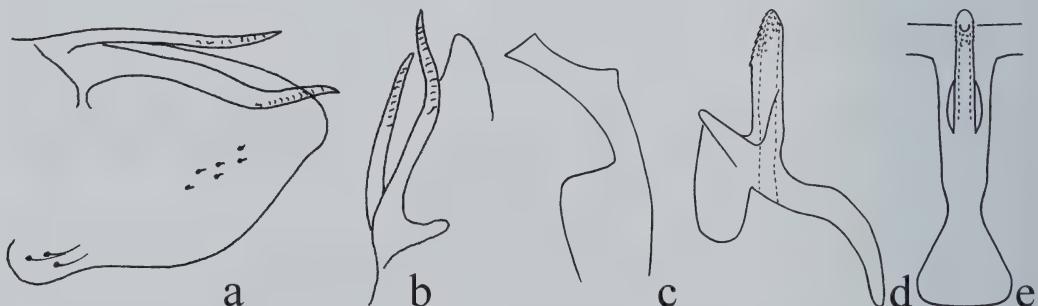


Figure 17. *E. curvata* (Beamer). c, d – holotype; a, b – from Hepner (unpublished).

18. *Eratoneura restricta* (Beamer, 1932) (Fig. 18, Plate 2r)*Erythroneura restricta* Beamer, 1932c:45*Erythroneura pallida* Knoll & Auten, 1937a:573,  
syn.n.*Erythroneura (Eratoneura) restricta* Young,  
1952b:87*Eratoneura restricta* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate near base, branches forcipate, extended to or beyond pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Story Co., Ames, 18 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Quercus alba*.

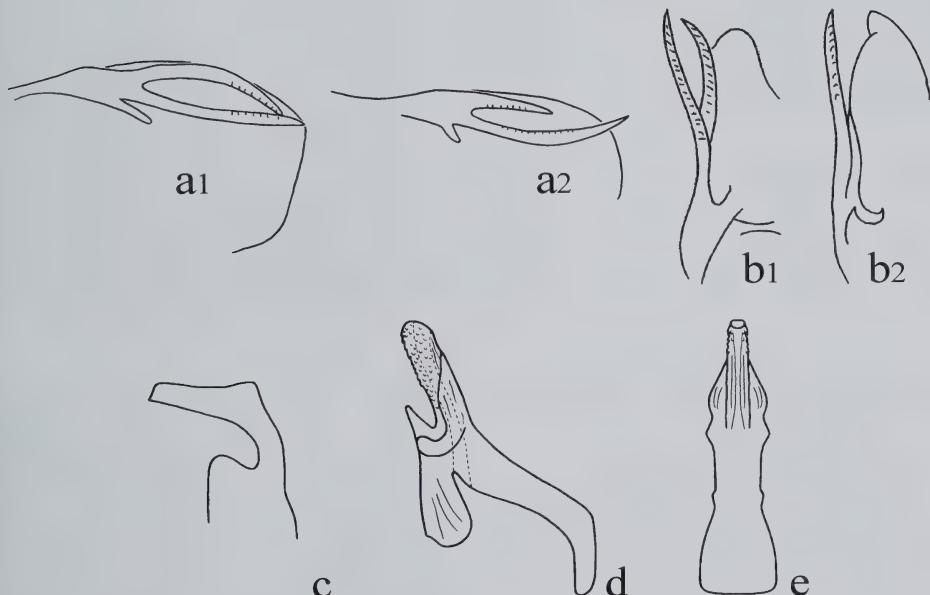


Figure 18. *E. restricta* (Beamer). a1–b2 – variation of shape of the pygofer appendage; a2 – holotype; a1, b2, c – holotype of *E. pallida* Knoll & Auten; b1–b2 – from Hepner (unpublished).

19. *Eratoneura impar* (Beamer, 1931) (Fig. 19, Plate 2s)*Erythroneura impar* Beamer, 1931a:133*Erythroneura (Eratoneura) impar* Young, 1952b:87*Eratoneura impar* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage bifurcate near base, branch-



es parallel to each other, not extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex short, toothlike; third point very short or absent. Aedeagus with preatrium shorter than shaft; shaft straight and broad in lateral view, compressed, denticulate distally, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and Eastern USA.

**Host plants:** *Quercus muehlenbergii*, *Q. prinus*, and other species of *Quercus*.

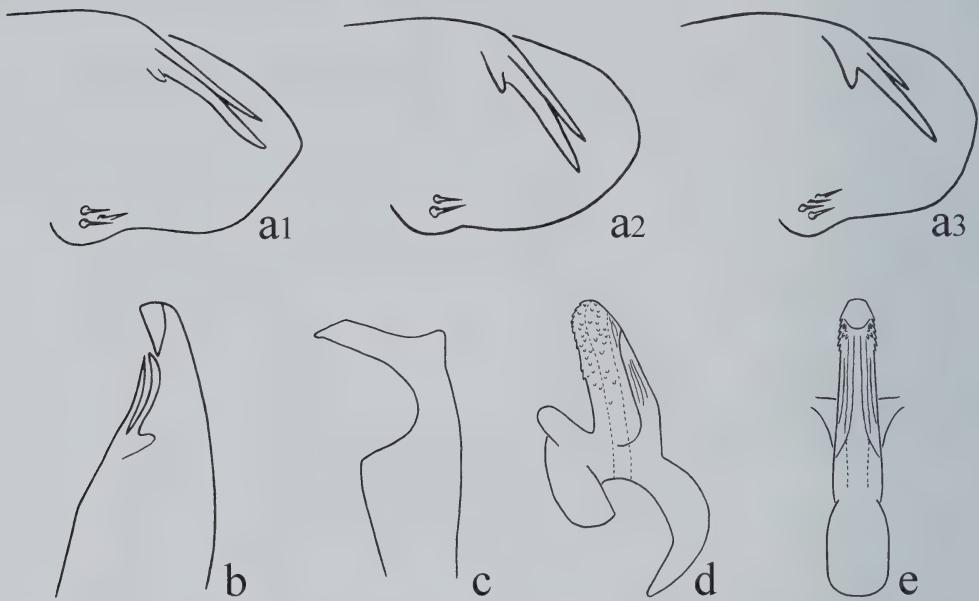


Figure 19. *E. impar* (Beamer). a1–a3 – variation of shape of the pygofer appendage, c – holotype.

20. *Eratoneura carmini* (Beamer, 1929) (Fig. 20,  
Plate 2t)

*Erythroneura carmini* Beamer,  
1929b:121

*Erythroneura (Eratoneura) carmini*  
Young, 1952b:86

*Eratoneura carmini* Dietrich & Dmitriev,  
2006a:



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide.

2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate near base, branches parallel to each other, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point absent or short and toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 9 IX 1927 (Beamer), (KSEM).

**Distribution:** USA, southern Canada.

**Host plants:** *Quercus macrocarpa*, *Q. lyrata*, *Q. michauxii*, *Q. stellata*, *Q. pagoda*, and other species of *Quercus*.

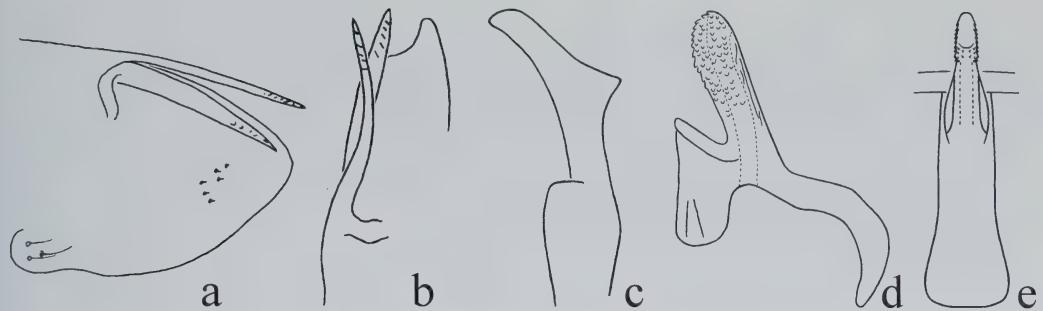


Figure 20. *E. carmini* (Beamer). a, b – from Hepner (unpublished).

**21. *Eratoneura forfex* (Beamer, 1932) (Fig. 21, Plate 2u)**

*Erythroneura forfex* Beamer, 1932e:82

*Erythroneura (Eratoneura) forfex* Young, 1952b:87

*Eratoneura forfex* Dietrich & Dmitriev, 2006a:135

**Description:** Length 2.8–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate near base, branches parallel to each other, extended to pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Arkansas, Polk Co., 21 VIII 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus alba*, *Q. macrocarpa*, and other species of *Quercus*.

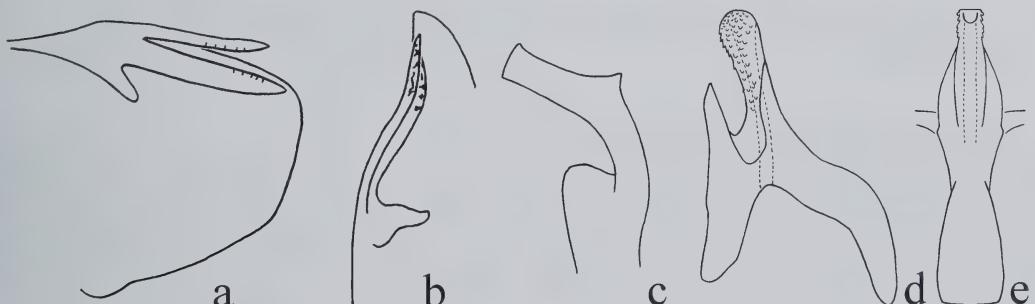


Figure 21. *E. forfex* (Beamer). a, c – holotype.

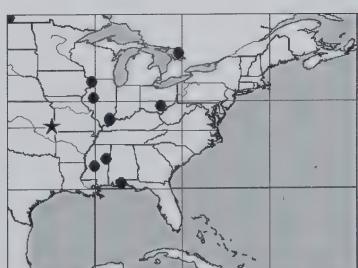
**22. *Eratoneura linea* (Beamer, 1932) (Fig. 22, Plate 3a)**

*Erythroneura linea* Beamer, 1932c:47

*Erythroneura (Eratoneura) linea* Young, 1952b:87

*Eratoneura linea* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage expanded and denticulate at apex,



extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with large lateral lobes at base, without appendages; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Cherokee Co., 29 XI 1928 (Beamer), (KSEM).

**Distribution:** Central USA and south central Canada.

**Host plants:** *Betula* sp.

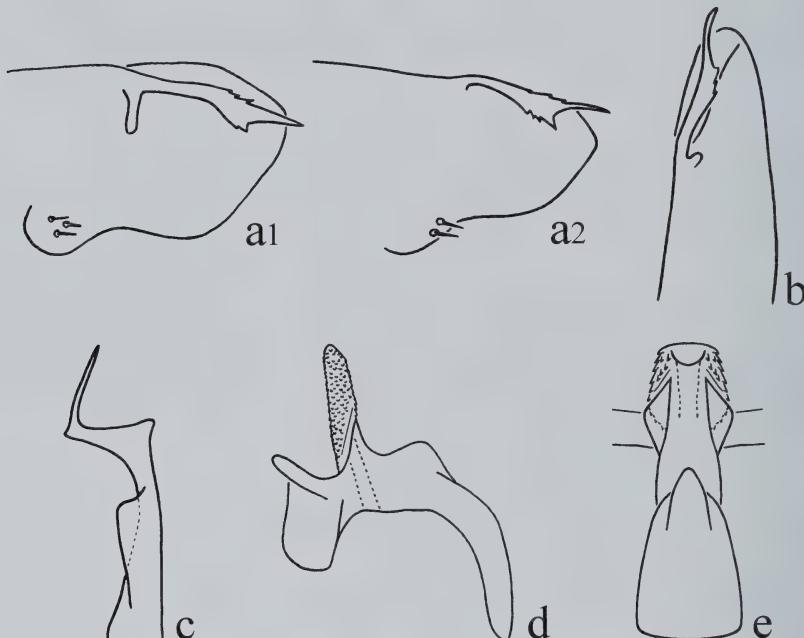


Figure 22. *E. linea* (Beamer). a1–a2 – variation of shape of the pygofer appendage.

**23. *Eratoneura rangifer* (Ross & DeLong, 1950) (Fig. 23, Plate 3b)**

*Erythroneura rangifer* Ross & DeLong, 1950a:292

*Erythroneura (Eratoneura) rangifer* Young, 1952b:120

*Eratoneura rangifer* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage expanded at apex with numerous long spines, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, with lateral lobes at base, without appendages; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Clark Co., Rocky Branch, on *Corylus americana*, 14 IX 1949 (Stannard & Ross), (INHS).

**Distribution:** Central and northeastern USA.

**Host plants:** *Corylus americana*.

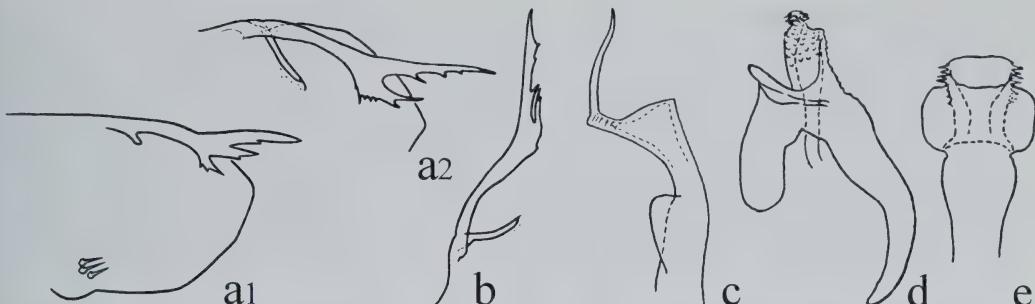


Figure 23. *E. rangifer* (Ross & DeLong). a1–a2 – variation of shape of the pygofer appendage; a2–e – from Ross & DeLong (1950a).

24. *Eratoneura dimidiata* (Knoll, 1949) (Fig. 24, Plate 3c)

*Erythroneura dimidiata* Knoll, 1949a:122

*Erythroneura (Eratoneura) dimidiata* Young,  
1952b:88

*Eratoneura dimidiata* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed, denticulate distally, with lateral lobes at base; apex broadened in ventral view, abruptly bent dorsad; without basal processes; distal processes short, apical, toothlike. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 28 VI, (Knoll), (OSU).

**Distribution:** Central and eastern USA.

**Host plants:** *Corylus americana*.

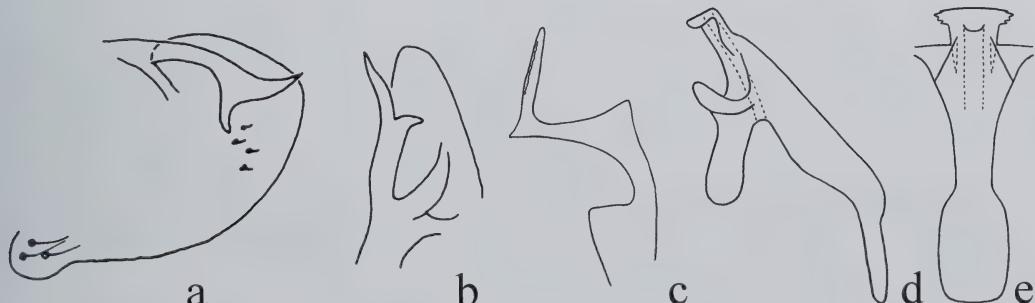


Figure 24. *E. dimidiata* (Knoll). a, b – from Hepner (unpublished).

**25. *Eratoneura sanctaerosae* (Hepner, 1967) (Fig. 25, Plate 3d)**

*Erythroneura sanctaerosae* Hepner, 1967a:24  
*Eratoneura sanctaerosae* Dietrich & Dmitriev,  
 2006a:138



**Description:** Length 3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Florida, Santa Rosa Co., on *Acer rubrum*, 13 VIII 1955 (Mead), (INHS).

**Distribution:** The species is known only from the type locality in Florida.

**Host plants:** Unknown; the holotype was collected on *Acer rubrum*.

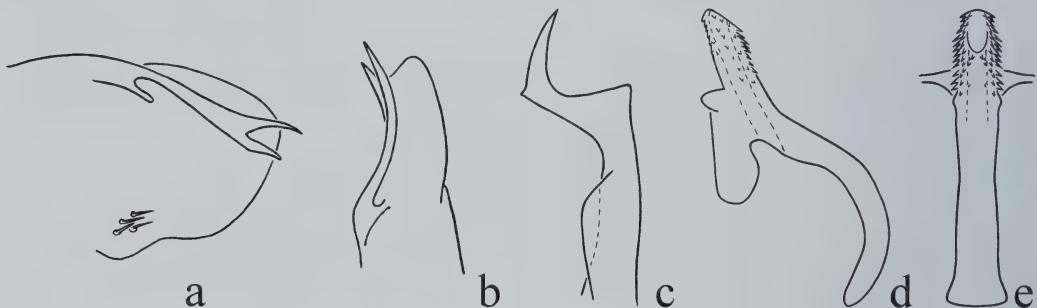
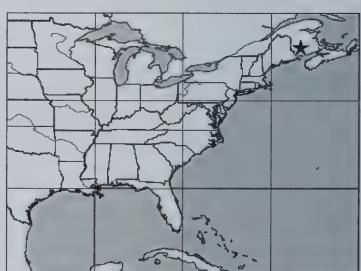


Figure 25. *E. sanctaerosae* (Hepner). a, c–e – holotype; b – from Hepner (1967a).

**26. *Eratoneura betulae* sp.n. (Fig. 26, Plate 3e)**

**Description:** Length 2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, straight in dorsal and lateral view, widest at base, branches crossing each other in dorsal view. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus parallel-sided, connection to pygofer membranous; preatrium longer than shaft; shaft straight and broad in lateral view, depressed and triangular in ventral view, denticulate distally, without lateral lobes and processes; apex truncate in ventral view. Dorsum yellowish with red or orange color pattern; vertex with orange parallel submedial lines with lateral branch and pale midline; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles, apex concolorous with rest of mesonotum; thoracic venter entirely pale; forewings with broken oblique vittae, without crossbands; clavus with separate basal and distal vittae, with dark spot on costal margin, inner apical cell with brown spot basally.



**Diagnosis:** Similar to *E. concisa* (Beamer) and *E. spala* (Ross & DeLong), but with the shaft of the aedeagus triangular in ventral view and the branches of the forked pygofer appendage crossing each other in dorsal view.

**Type locality:** Holotype ♂, Canada, New Brunswick, Fredericton, on *Betula lutea*, 30 VIII 1959 (Varty), (INHS).

**Studied material:** Paratypes: 2 ♂, Canada, New Brunswick, Odell Park, Fredericton, on *Betula lutea*, 25 IX 1961 (Varty), (CNC); 1 ♂, same locality, on *Betula lutea*, 29 IX 1961 (Varty), (MEM); 1 ♂, same locality, on *Betula lutea*, 11 X 1961 (Varty), (MEM).

**Distribution:** The species is known only from the type locality in New Brunswick.

**Host plants:** *Betula lutea*.

**Notes:** The name refers to the host plant.

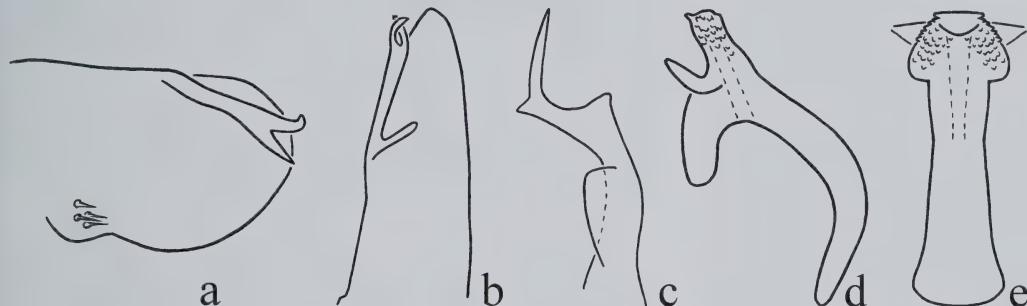


Figure 26. *E. betulae* sp.n. a – e – paratype.

#### 27. *Eratoneura concisa* (Beamer, 1931) (Fig. 27, Plate 3f)

*Erythroneura concisa* Beamer, 1931d:286

*Erythroneura consueta* Beamer, 1932d:71, **syn.n.**

*Erythroneura (Eratoneura) concisa* Young, 1952b:86

*Erythroneura caverna* Hepner, 1967a:23, **syn.n.**

*Erythroneura lucora* Hepner, 1967a:24, **syn.n.**

*Eratoneura concisa* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage bifurcate far from base, variable in shape, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, broad in lateral view, depressed, round in ventral view, denticulate distally, without lateral lobes and processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Aesculus* sp., *Corylus americana*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape and relative length of the branches of the pygofer appendage (Fig. 27a1–a4).

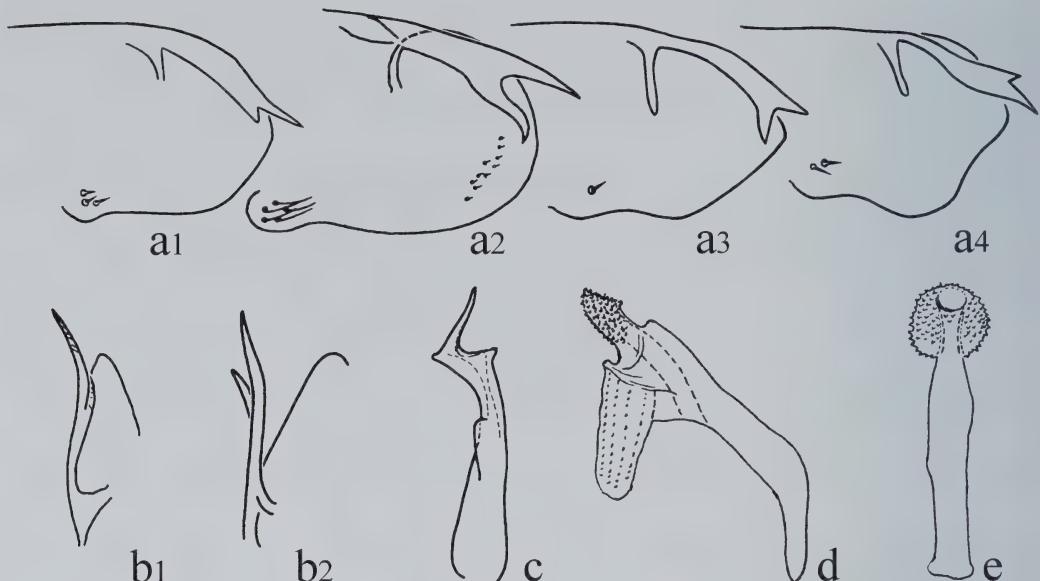


Figure 27. *E. concisa* (Beamer). a1–b2 – variation of shape of the pygofer appendage; a1, b1 – var. *concisa* Beamer; a2, b2 – var. *consueta* Beamer; a3 – var. *lucora* Hepner; a2, b1, b2 – from Hepner (unpublished); c–e – from Ross (1958a).

28. *Eratoneura spala* (Ross & DeLong, 1950) (Fig. 28, Plate 3g)

*Erythroneura spala* Ross & DeLong, 1950a:294

*Erythroneura (Eratoneura) spala* Young, 1952b:120

*Eratoneura spala* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.4–2.6 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes and processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Clark Co., Rocky Branch, on *Fagus grandifolia*, 14 IX 1949 (Stannard & Ross), (INHS).

**Distribution:** Central and southeastern USA.

**Host plants:** *Ostrya virginiana*, *O. caroliniana*, *Carpinus caroliniana*, *Corylus americana*, *Fagus grandifolia*, and probably some other plants.

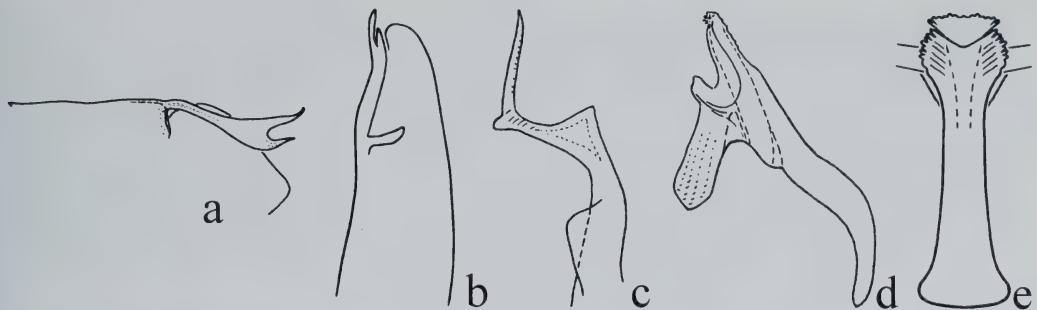


Figure 28. *E. spala* (Ross & DeLong). b – holotype; d – paratype; a, c, e – from Ross & DeLong (1950a).

29. *Eratoneura harpola* (Ross, 1956) (Fig. 29, Plate 3h)

*Erythroneura harpola* Ross, 1956a:85

*Eratoneura harpola* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.3–2.5 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes and processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Pike Co., Kinderhook, on *Acer saccharum*, 9 VIII 1951 (Richards & Stannard), (INHS).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Ostrya virginiana*.

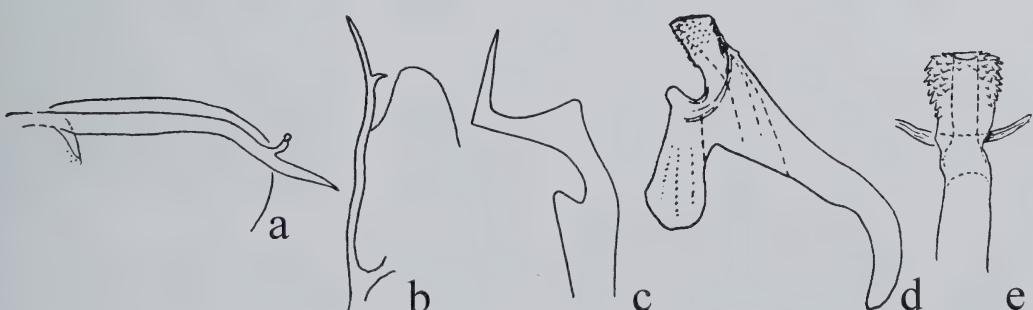


Figure 29. *E. harpola* (Ross). c – paratype; a, d, e – from Ross (1956a).

**30. *Eratoneura minor* (Beamer, 1932) (Fig. 30, Plate 3i)**

*Erythroneura minor* Beamer, 1932e:84

*Erythroneura (Eratoneura) minor* Young, 1952b:87

*Eratoneura minor* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.5–2.7 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, with lateral lobe, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Story Co., Ames, 18 IV 1930 (Beamer), (KSEM).

**Distribution:** Central USA, south central Canada.

**Host plants:** *Crataegus mollis*.

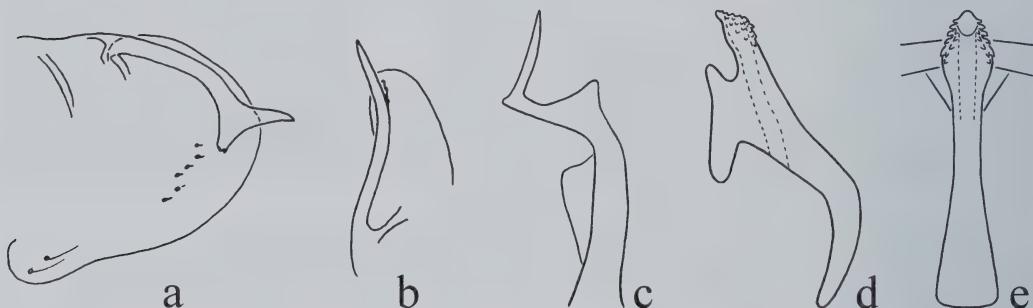


Figure 30. *E. minor* (Beamer). c, d – holotype; a, b – from Hepner (unpublished).

**31. *Eratoneura aesculi* (Beamer, 1932) (Fig. 31, Plate 3j)**

*Erythroneura aesculi* Beamer, 1932c:46

*Erythroneura (Eratoneura) aesculi* Young, 1952b:86

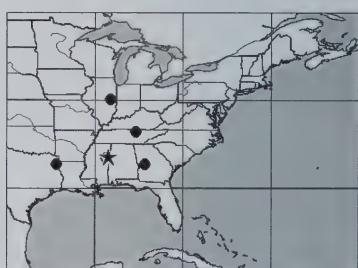
*Eratoneura aesculi* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, without lateral lobes and processes; apex truncate in ventral view. Forewing with large red spot at base.

**Type locality:** Holotype ♂, USA, Mississippi, Lowndes Co., Columbus, 16 VII 1930 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Aesculus* sp.



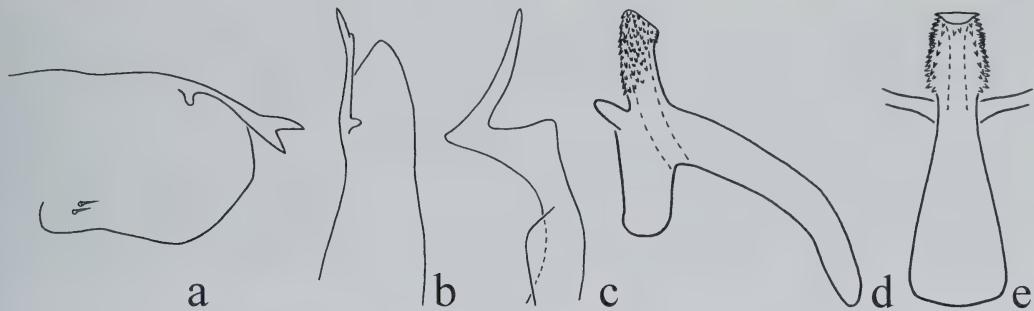


Figure 31. *E. aesculi* (Beamer). c – holotype; a, b, d, e – paratype.

**32. *Eratoneura bifida* (Beamer, 1931) (Fig. 32, Plate 3k)**

*Erythroneura bifida* Beamer, 1931a:134

*Erythroneura (Eratoneura) bifida* Young, 1952b:86

*Eratoneura bifida* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, without lateral lobes and processes; apex truncate in ventral view. Forewing with two spots: one at base, another at apex of clavus.

**Type locality:** Holotype ♂, USA, Louisiana, Caddo Co., Caddo Parish, 19 VIII 1928 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Aesculus* sp.

**Notes:** The male genitalia of this species are identical to those of *E. aesculi* (Beamer). The two species are different only in the color pattern, and in size.

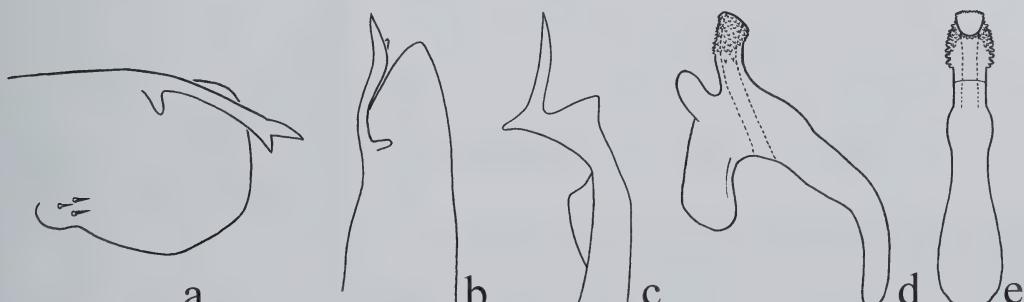


Figure 32. *E. bifida* (Beamer). a, b – paratype; c – holotype.

**33. *Eratoneura aculeata* (Beamer, 1932) (Fig. 33, Plate 31)**

*Erythroneura aculeata* Beamer, 1932g:161

*Erythroneura (Eratoneura) aculeata* Young,  
1952b:86

*Erythroneura woodruffi* Hepner, 1967a:23, **syn.n.**

*Eratoneura aculeata* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes and processes, apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Clayton Co., 19 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Corylus americana*, *Fagus grandifolia*, *Carpinus caroliniana*.

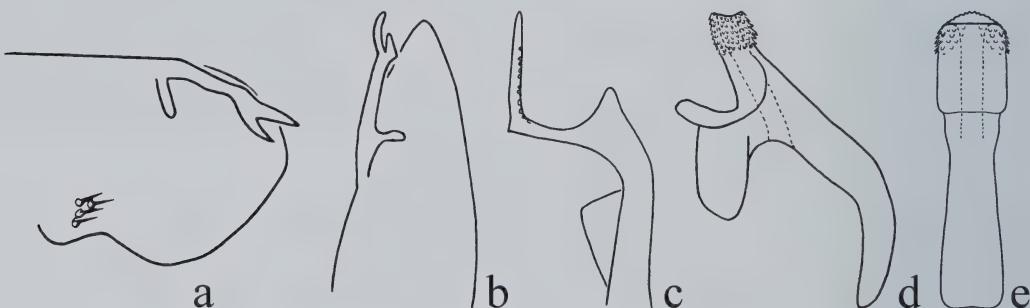


Figure 33. *E. aculeata* (Beamer). c – holotype.

**34. *Eratoneura lusoria* (Van Duzee, 1924) (Fig. 34, Plate 3m)**

*Erythroneura lusoria* Van Duzee, 1924a:234

*Erythroneura coryli* Van Duzee, 1924a:234 (sec.

hom. of *Typhlocyba coryli* Töllin, 1851a), **syn.n.**

*Erythroneura californica* Beamer, 1932f:143, n.nov.,  
**syn.n.**

*Erythroneura (Erythridula) lusoria* Young, 1952b:83  
*Erythridula lusoria* Dietrich & Dmitriev, 2006a:129



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, depressed, denticulate distally; without lateral lobes or processes; apex blunt in ventral view. Forewings usually with oblique vittae forming continuous zigzag pattern.

**Type locality:** Holotype ♂, USA, California, Alameda Co., Leona Heights, VIII, (Bradley), (CAS).

**Distribution:** California.

**Host plants:** *Corylus* sp.

**Notes:** The holotype of *E. lusoria* (Van Duzee, 1924) is a color form with poorly developed color pattern consisting of separate maculae (Plate 3m2).

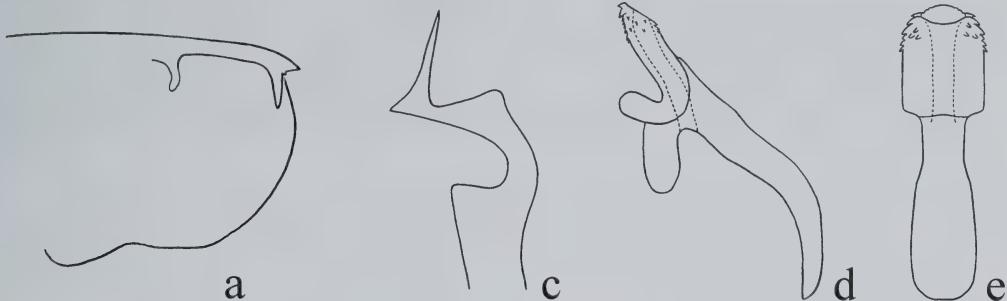


Figure 34. *E. lusoria* (Van Duzee).

35. *Eratoneura pyra* (McAtee, 1924) (Fig. 35, Plates 1c, 3n)

*Erythroneura pyra* McAtee, 1924d:133

*Erythroneura (Eratoneura) pyra* Young, 1952b:87

*Eratoneura pyra* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Forewings with oblique vittae forming zigzag pattern in basal half.

**Type locality:** Holotype ♂, USA, Iowa, Polk Co., Berwick, 28 IX 1895, (USNM).

**Distribution:** North central USA.

**Host plants:** *Aesculus glabra*.

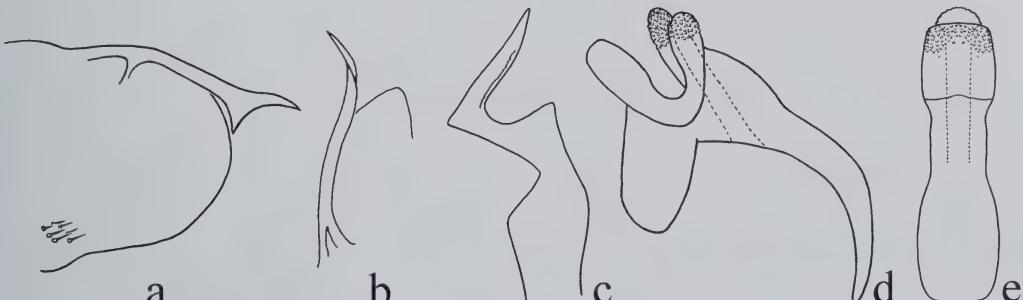


Figure 35. *E. pyra* (McAtee).

**36. *Eratoneura millsi* (Ross & DeLong, 1950)**

(Fig. 36, Plate 3o)

*Erythroneura millsi* Ross & DeLong,  
1950a:291

*Erythroneura (Eratoneura) millsi* Young,  
1952b:120

*Erythroneura schista* Knull, 1955a:246,  
*syn.n.*

*Eratoneura millsi* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point absent or short toothlike; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., Gibsonia, on *Quercus stellata*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus stellata*.

**Notes:** *E. schista* Knull was described based on a specimen with a longer dorsal branch of the pygofer appendage (Fig. 36a<sub>2</sub>). The relative lengths of the branches vary intraspecifically.

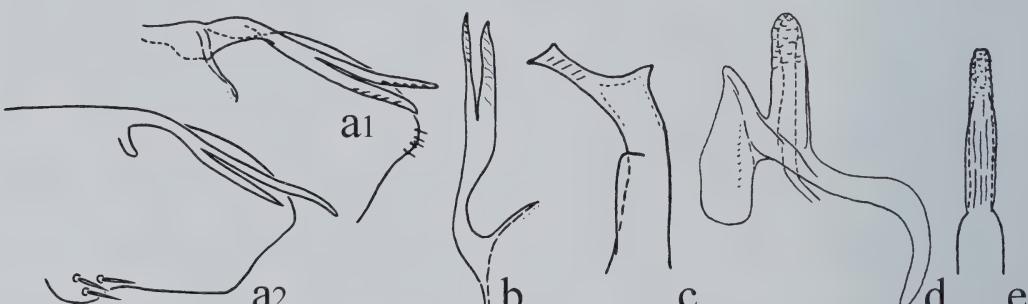


Figure 36. *E. millsi* (Ross & DeLong). a1–a2 – variation of shape of the pygofer appendage; a2 – var. *schista* Knull; a–e – from Ross & DeLong (1950a).

**37. *Eratoneura longifurca* (Hepner, 1966) (Fig. 37, Plate 3p)**

*Erythroneura longifurca* Hepner, 1966c:3

*Eratoneura longifurca* Dietrich & Dmitriev,  
2006a:136



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes

at base, without processes; apex acuminate in ventral view.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 4 III 1962 (Hepner), (INHS).

**Distribution:** The species is known only from the type locality in Mississippi.

**Host plants:** Unknown.

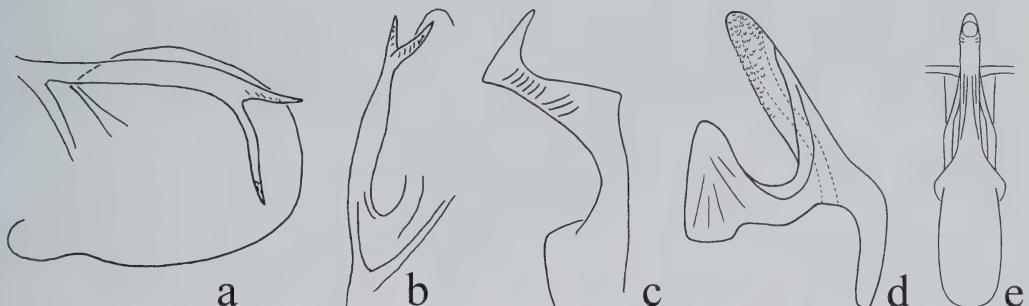


Figure 37. *E. longifurca* (Hepner). a, b – from Hepner (unpublished).

38. *Eratoneura manus* (Beamer, 1932) (Fig. 38, Plate 3q)

*Erythroneura manus* Beamer, 1932e:83

*Erythroneura tenilla* Ross & DeLong, 1950a:294,  
syn.n.

*Erythroneura (Eratoneura) manus* Young, 1952b:87

*Erythroneura colmeri* Hepner, 1969a:132, syn.n.

*Eratoneura manus* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage expanded towards apex, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate. Second and third points of style apex very short, toothlike. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Quercus velutina*, *Q. stellata*, *Q. rubra* var. *ambigua*, *Q. alba*, *Q. marilandica*, and other species of *Quercus*.

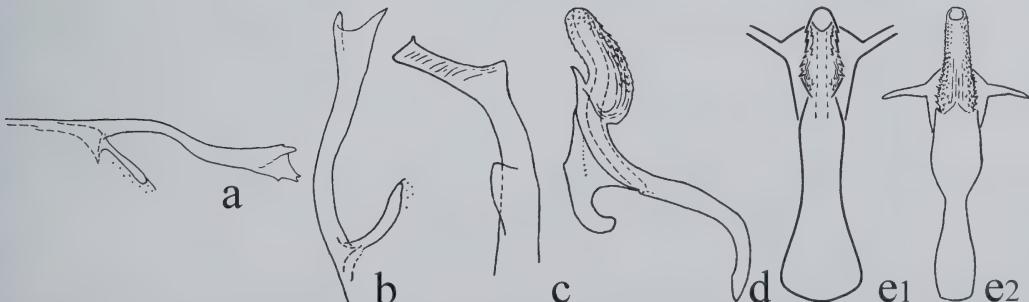


Figure 38. *E. manus* (Beamer). e<sub>1</sub>–e<sub>2</sub> – variation of shape of the aedeagal shaft; e<sub>2</sub> – var. *tenilla* Ross & DeLong; a–d, e<sub>2</sub> – from Ross & DeLong (1950a).

39. *Eratoneura staffordi* (Hepner, 1966) (Fig. 39, Plate 3r)  
*Erythroneura staffordi* Hepner, 1966c:3  
*Eratoneura staffordi* Dietrich & Dmitriev, 2006a:138

**Description:** Length 3–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base or expanded towards apex, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward distally in lateral view, widest at base, denticulate at apex. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Carpinus caroliniana*, 7 IV 1963 (Hepner), (INHS).

**Distribution:** The species is known only from the type locality in Mississippi.

**Host plants:** *Carpinus caroliniana*.

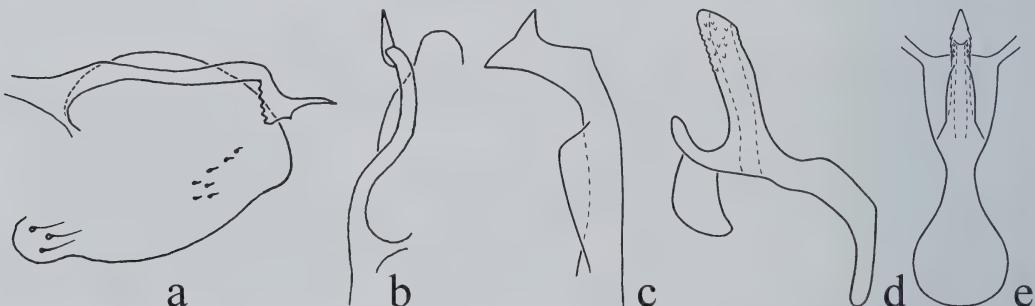


Figure 39. *E. staffordi* (Hepner). c–e – holotype; a–b – from Hepner (unpublished).

40. *Eratoneura ardens* (McAtee, 1920) (Fig. 40, Plates 1d, 3s)

*Typhlocyba comes* var. *scutellaris* Gillette, 1898a:764  
 (prim.hom. of *Typhlocyba scutellaris* Herrich-Schäffer, 1838c), syn.n.

*Typhlocyba comes* var. *scutelleris* Gillette,  
 1898a:764, missp.

*Erythroneura maculata* var. *ardens* McAtee,  
 1920a:299

*Erythroneura kansana* Baker, 1925b:537 n.nov.,  
 syn.n.

*Erythroneura scutellaris* var. *insolita* McAtee,  
 1926c:133, syn.n. (Plate 3s3)

*Erythroneura kansana* var. *ardens* Beamer, 1932f:138

*Erythroneura ardens* Oman, 1949a:95

*Erythroneura (Eratoneura) ardens* Young, 1952b:86

*Eratoneura ardens* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.7–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded;

appendage bifurcate far from base, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in crosssection, denticulate distally, with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus, but usually with dark brown mesonotum.

**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Plummers Island, 28 III 1915 (McAtee), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Ulmus americana*, *U. alata*, and *U. rubra*.

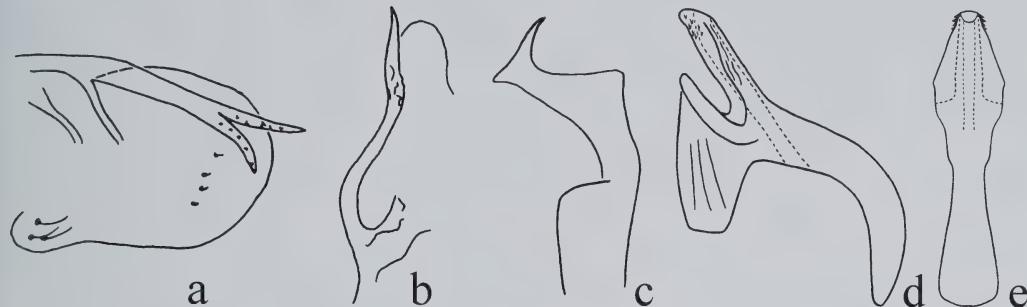


Figure 40. *E. ardens* (McAtee). a–b – from Hepner (unpublished).

#### 41. *Eratoneura uvaldeana* (Knoll, 1949) (Fig. 41,

Plate 3t)

*Erythroneura uvaldeana* Knoll,  
1949a:125

*Erythroneura (Eratoneura) uvaldeana*  
Young, 1952b:88

*Eratoneura uvaldeana* Dietrich & Dmi-  
triev, 2006a:139



**Description:** Length 2.6–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide.

2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage compressed, bifurcate far from base, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Forewings with oblique vittae forming continuous zigzag pattern, without crossbands.

**Type locality:** Holotype ♂, USA, Texas, Uvalde Co., Garner Park, on *Quercus* sp., 4 VIII 1937 (Knoll), (OSU).

**Distribution:** Texas.

**Host plants:** *Quercus* sp.

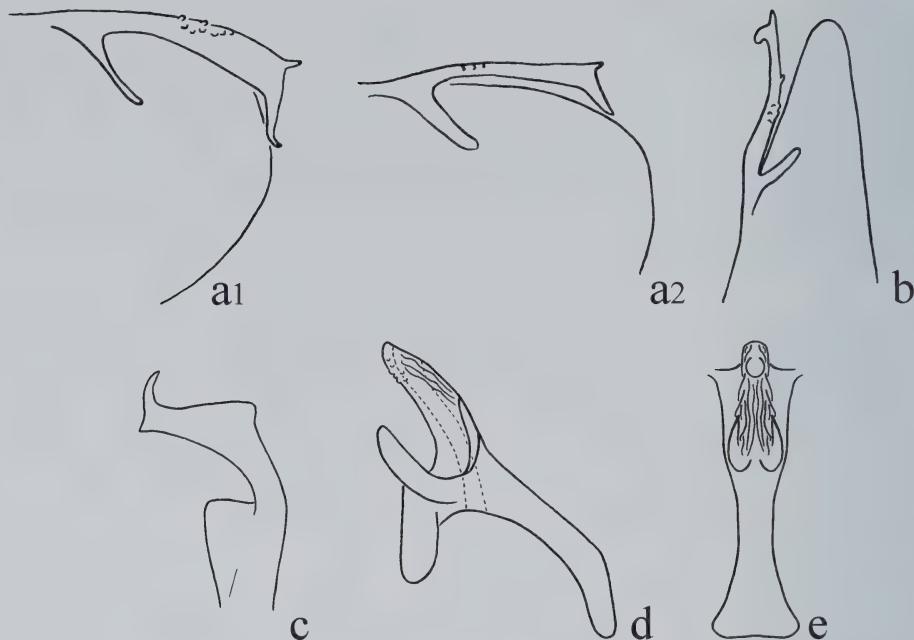


Figure 41. *E. uvaldeana* (Knoll). a2, c, d – holotype; a1 – paratype.

42. *Eratoneura inepta* (Beamer, 1932) (Fig. 42, Plate 4a)

*Erythroneura inepta* Beamer, 1932g:162

*Erythroneura (Eratoneura) inepta* Young, 1952b:87

*Erythroneura hutchinsi* Hepner, 1966c:2, **syn.n.**

(Plate 4a2)

*Eratoneura inepta* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3.1–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage compressed, bifurcate far from base, extended to pygofer apex, compressed, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate dorsally. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus michauxii* and *Q. stellata*.

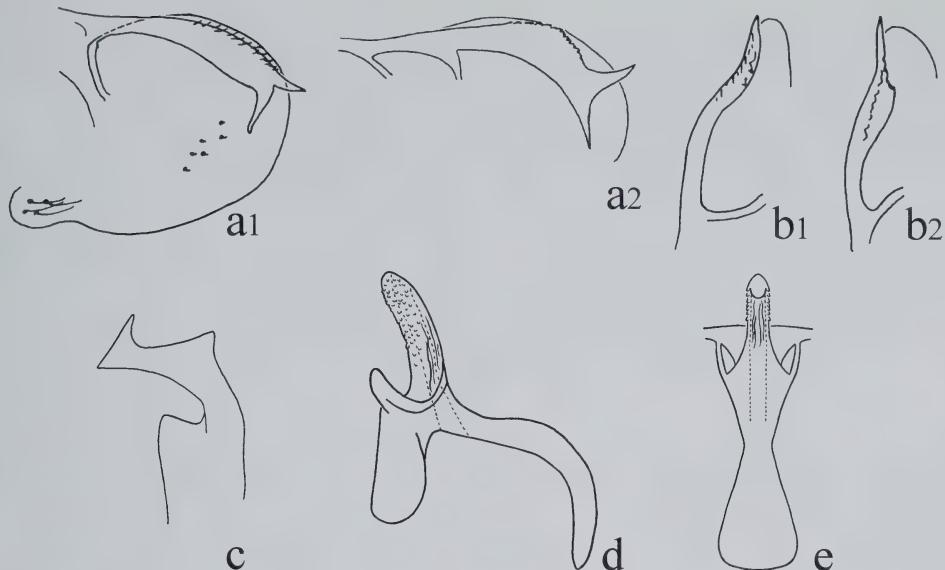


Figure 42. *E. inepta* (Beamer). a<sub>1</sub>–b<sub>2</sub> – variation of shape of the pygofer appendage; a<sub>2</sub>, b<sub>2</sub> – var. *hutchinsi* Hepner; c – holotype; a<sub>1</sub>, b<sub>1</sub>, b<sub>2</sub> – from Hepner (unpublished); a<sub>2</sub> – from Hepner (1966c).

#### 43. *Eratoneura firma* (Beamer, 1932) (Fig. 43, Plate 4b)

*Erythroneura firma* Beamer, 1932a:12

*Erythroneura (Eratoneura) firma* Young, 1952b:87

*Erythroneura velox* Ross, 1953b:190, *syn.n.*

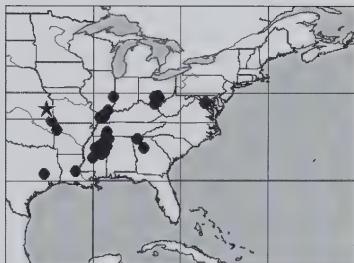
*Erythroneura thaxtoni* Hepner, 1966c:2, *syn.n.*

*Erythroneura cunninghami* Hepner, 1966c:3, *syn.n.*

*Erythroneura shumiquera* Hepner, 1972a:431, *syn.n.*

*Erythroneura combesi* Hepner, 1972c:267, *syn.n.*

*Eratoneura firma* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.9–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, thickened along dorsal margin, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 9 IX 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus lyrata*, *Q. michauxii*, *Q. stellata*, *Q. prinus*, and other species of *Quercus*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape and relative length of the branches of the pygofer appendage (Fig. 43a).

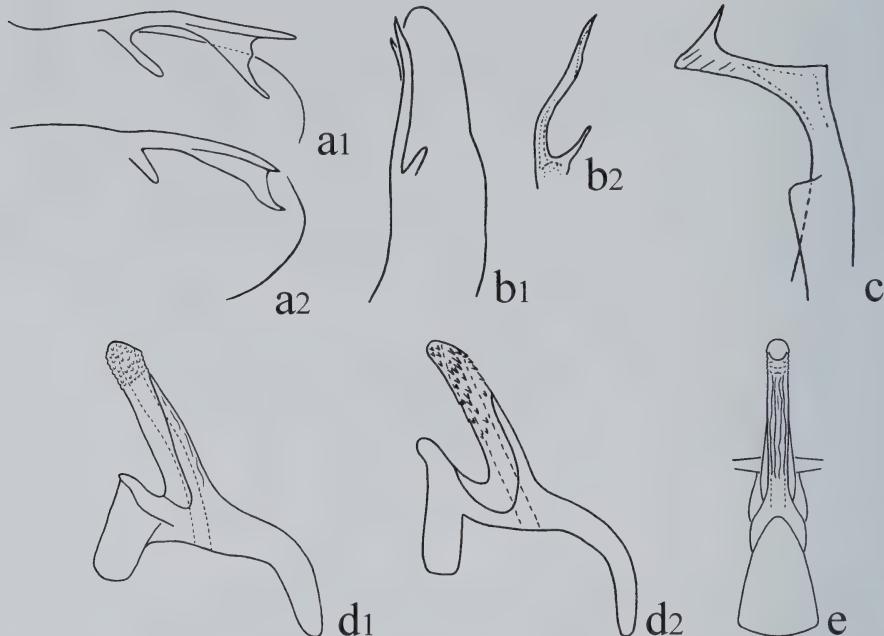


Figure 43. *E. firma* (Beamer). a<sub>1</sub>–b<sub>2</sub> – variation of shape of the pygofer appendage; a<sub>1</sub> – holotype; a<sub>2</sub> – holotype of *E. velox* Ross; b<sub>1</sub> – paratype of *E. thaxtoni* Hepner; d<sub>1</sub>–d<sub>2</sub> – variation in shape of the aedeagus; d<sub>1</sub> – holotype; d<sub>2</sub> – paratype of *E. thaxtoni* Hepner; b<sub>2</sub>, c – from Ross (1953b).

44. *Eratoneura bispinosa* (Beamer, 1931) (Fig. 44, Plate 4c)

*Erythroneura bispinosa* Beamer, 1931b:241

*Erythroneura (Eratoneura) bispinosa* Young,  
1952b:86

*Eratoneura bispinosa* Dietrich & Dmitriev,  
2006a:134



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage strongly compressed, bifurcate far from base, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 9 IX 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Ulmus americana*, *U. alata*, *U. rubra*, *Ilex decidua*.

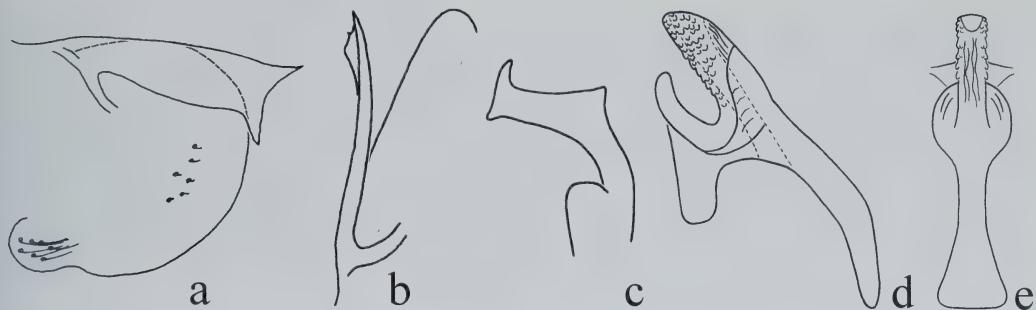


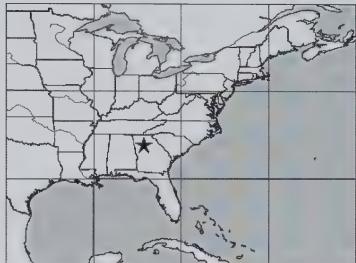
Figure 44. *E. bispinosa* (Beamer). a, b – from Hepner (unpublished).

**45. *Eratoneura hyalina* (Knoll & Auten, 1937) (Fig. 45, Plate 4d)**

*Erythroneura hyalina* Knoll & Auten, 1937a:575

*Erythroneura (Eratoneura) hyalina* Young, 1952b:87

*Eratoneura hyalina* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage bifurcate far from base, with ventral branch considerably longer than dorsal, extended to pygofer apex, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, denticulate distally, with lateral lobes, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Georgia, DeKalb Co., Decatur, 17 IV 1934 (Auten), (OSU).

**Distribution:** The species is known only from the type locality in Georgia.

**Host plants:** Unknown.

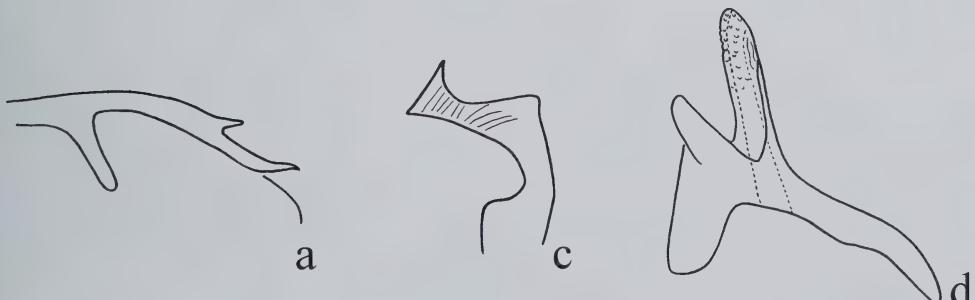


Figure 45. *E. hyalina* (Knoll & Auten). a-d – holotype.

**46. *Eratoneura harnedi* (Hepner, 1966) (Fig. 46, Plate 4e)**

*Erythroneura harnedi* Hepner, 1966c:5

*Eratoneura harnedi* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.7–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base or three pointed, extended to pygofer apex, distinctly sinuate in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., Shawneetown, on *Quercus imbricaria*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus imbricaria*.

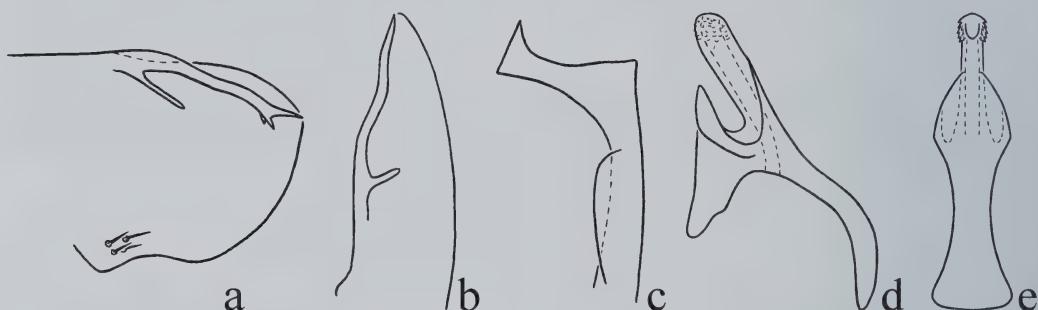


Figure 46. *E. harnedi* (Hepner).

**47. *Eratoneura unica* (Beamer, 1932) (Fig. 47, Plate 4f)**

*Erythroneura unica* Beamer, 1932e:83

*Erythroneura quercalbae* Ross & DeLong, 1950a:294, *syn.n.*

*Erythroneura (Eratoneura) unica* Young, 1952b:88

*Eratoneura unica* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Clayton Co., 19 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Quercus alba*.

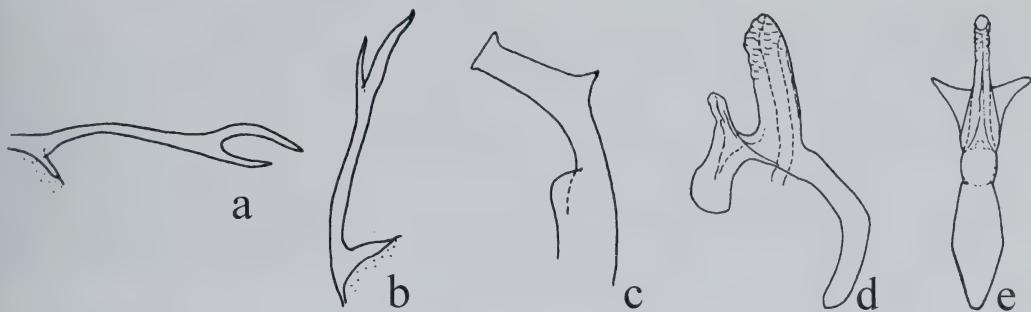


Figure 47. *E. unica* (Beamer). a–e – from Ross & DeLong (1950a).

48. *Eratoneura mira* (Beamer, 1932) (Fig. 48, Plate 4g)

*Erythroneura mira* Beamer, 1932c:45

*Erythroneura (Eratoneura) mira* Young, 1952b:87

*Eratoneura mira* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.7–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide.

2S abdominal apodemes small, narrow, extended

dorsomesad. Pygofer lobe rounded; appendage bifurcate far from base, not extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Wabash Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, two specimens are known from Colorado.

**Host plants:** *Quercus alba*.

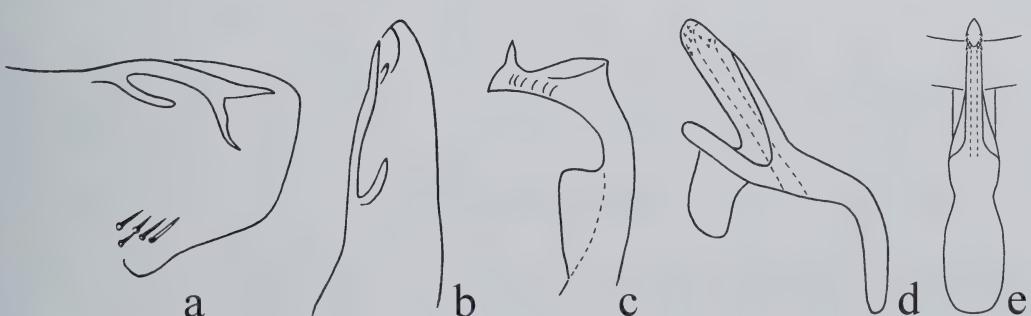


Figure 48. *E. mira* (Beamer). a, c – paratype.

**49. *Eratoneura facota* (Beamer, 1932) (Fig. 49, Plate 4h)**

*Erythroneura facota* Beamer, 1932d:70

*Erythroneura facata* DeLong & Caldwell, 1937c:77,  
missp.

*Erythroneura (Eratoneura) facota* Young, 1952b:87  
*Eratoneura facota* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage bifurcate far from base, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Florida, Pasco Co., Lacoochee, on *Quercus* sp., 18 VIII 1930 (Beamer), (KSEM).

**Distribution:** Florida.

**Host plants:** *Quercus* sp.

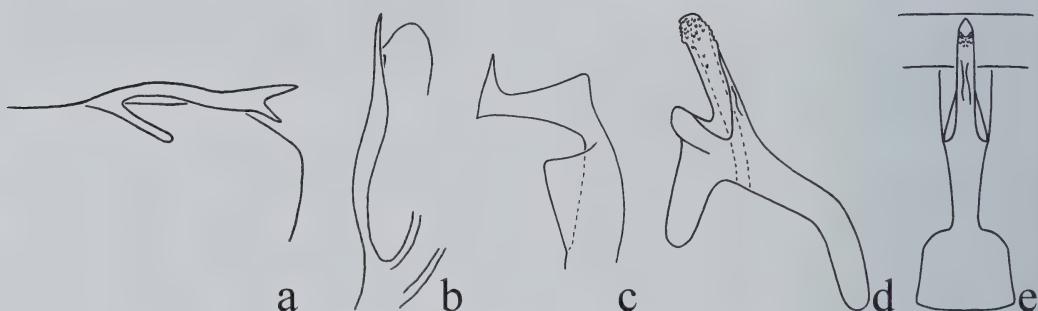


Figure 49. *E. facota* (Beamer). a, c – holotype; d – paratype.

**50. *Eratoneura cristata* (Knoll, 1951) (Fig. 50, Plate 4i)**

*Erythroneura cristata* Knoll, 1951b:174

*Erythroneura (Eratoneura) cristata* Young,  
1952b:120

*Erythroneura spiniterma* Hepner, 1969a:133, syn.n.

*Eratoneura cristata* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage expanded towards apex, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate apically. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Scioto Co., 10 VI 1944 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** *Quercus alba*, *Q. stellata*.

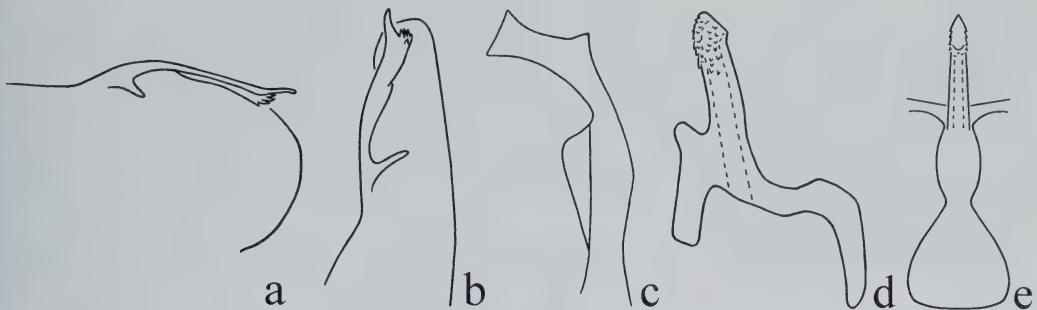
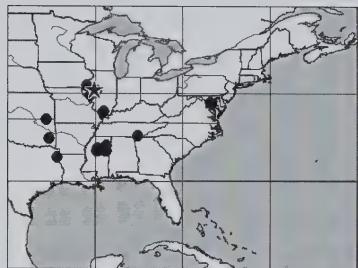


Figure 50. *E. cristata* (Knoll). a, c, d – holotype; b, e – holotype of *E. spiniterma* Hepner.

### 51. *Eratoneura mcateeai* sp.n. (Fig. 51, Plate 4j)

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage expanded to apex, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate apically. Second and third points of style apex very short, toothlike. Dorsal apodeme of aedeagus parallel-sided, connection to pygofer membranous; preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with orange lateral triangles and apex; thoracic venter entirely pale. Forewings with broken oblique vittae, without crossbands; clavus with separate basal and distal vittae; dark spot at costal margin; inner apical cell with brown spot basally.



**Diagnosis:** Similar to *E. manus* (Beamer), but with the aedeagal shaft less curved in lateral view and with large lateral lobes at the base of the shaft.

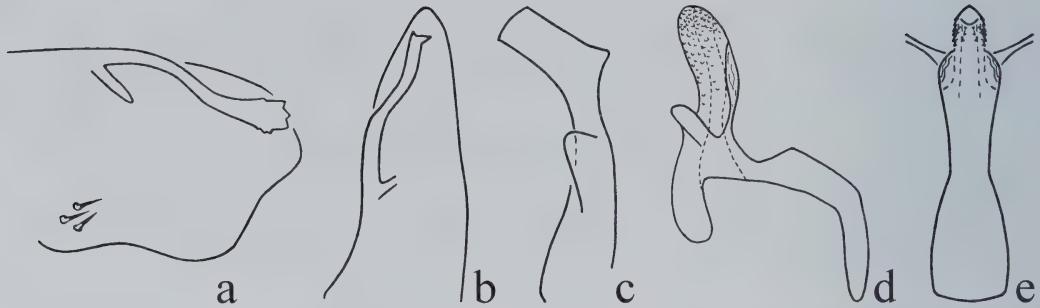
**Type locality:** Holotype ♂, USA, Illinois, Mason Co., Havana, 2 VII 1934 (DeLong & Ross), (INHS).

**Studied material:** Paratypes: USA, 2 ♂, Illinois, Franklin Co., Christopher, on *Quercus marilandica*, 5 VIII 1954 (Ross & Moore), (INHS); 2 ♂, Illinois, Franklin Co., Royalton, on *Quercus marilandica*, 5 VIII 1954 (Ross & Moore), (INHS); 1 ♂, Illinois, Henderson Co., Oquawka, sand ridge, on *Quercus* sp., 3 VII 1934 (DeLong & Ross), (INHS); 75 ♂, Illinois, Mason Co., Forest City, on *Quercus marilandica*, 11 IX 1953 (Stannard & Ross), (INHS); 1 ♂, Illinois, Mason Co., Forest City, on *Quercus marilandica*, 11 IX 1953 (Sanderson & Ross), (INHS); 23 ♂, Illinois, Mason Co., Forest City, on *Quercus marilandica*, 8 IX 1954 (Ross & Stannard), (INHS); 2 ♂, Illinois, Mason Co., Havana, 2 VII 1934 (DeLong & Ross), (INHS); 1 ♂, Illinois, Mason Co., Mason County State Wildlife Refuge, on *Quercus* sp., 21 V 1953 (Moore), (INHS); 1 ♂, Illinois, Morgan Co., Meredosia, on *Quercus marilandica*, 2 X 1951 (Sanderson & Stannard), (INHS); 32 ♂, Illinois, Morgan Co., Meredosia, on *Quercus marilandica*, 8 IX 1954 (Ross & Stannard), (INHS). Other studied material from Kansas, Illinois, Mississippi, and Maryland excluded from paratypes.

**Distribution:** Central and northeastern USA.

**Host plants:** *Quercus marilandica*.

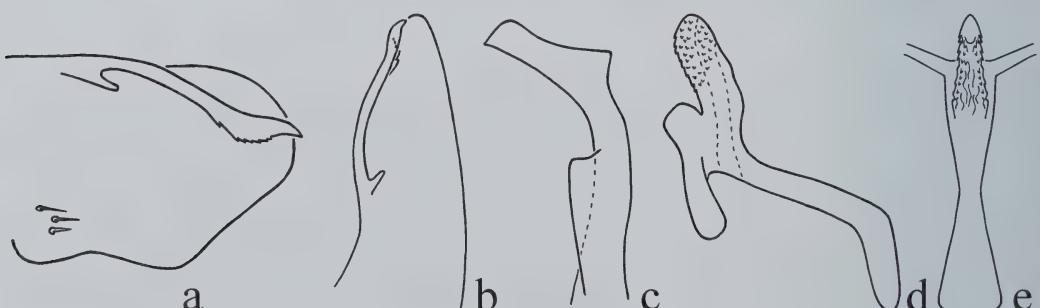
**Notes:** The species is named in honor of Dr. W.L. McAtee, a researcher who described many species of *Erythroneura* at the beginning of the 20th century.

Figure 51. *E. mcatee* sp.n.52. *Eratoneura unguis* (Beamer, 1932) (Fig. 52, Plate 4k)*Erythroneura unguis* Beamer, 1932d:69*Erythroneura (Eratoneura) unguis* Young,  
1952b:88*Eratoneura unguis* Dietrich & Dmitriev,  
2006a:139

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage expanded towards apex, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate at apex. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft curved dorsad, slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acute in ventral view. Coloration usual for genus.  
**Type locality:** Holotype ♂, USA, Louisiana, Natchitoches Co., Natchitoches Parish, 16 VIII 1928 (Beamer), (KSEM).

**Distribution:** South of central and southeastern USA.

**Host plants:** *Quercus stellata*.

Figure 52. *E. unguis* (Beamer). c – holotype.

53. *Eratoneura distincta* (Knoll & Auten, 1937) (Fig. 53, Plate 4l)

*Erythroneura distincta* Knoll & Auten, 1937a:572  
*Erythroneura (Eratoneura) distincta* Young,  
 1952b:88

*Erythroneura priniquera* Hepner, 1967b:68, **syn.n.**  
*Eratoneura distincta* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, compressed, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points more than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally; apex truncate in ventral view; basal processes arising near midlength of shaft, flattened and evenly divergent; distal processes absent. Coloration usual for genus, color pattern in distal part of forewing brighter.

**Type locality:** Holotype ♂, USA, Georgia, DeKalb Co., Decatur, 25 IV 1934 (Auten), (OSU).

**Distribution:** South of central and southeastern USA.

**Host plants:** *Quercus prinus*.

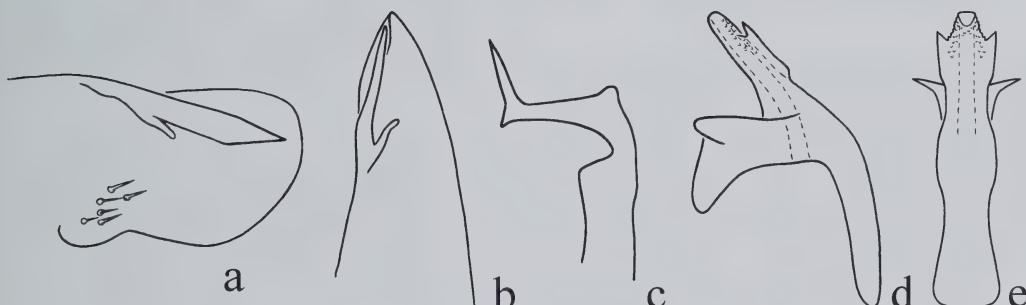


Figure 53. *E. distincta* (Knoll & Auten). c – holotype; a, b, d, e – holotype of *E. priniquera* Hepner.

54. *Eratoneura spinea* (Knoll, 1951) (Fig. 54, Plate 4m)

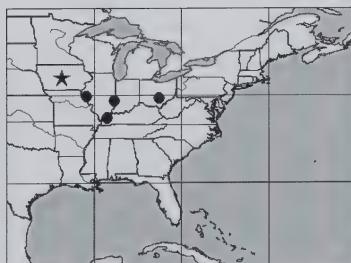
*Erythroneura spinea* Knoll, 1951b:172  
*Erythroneura (Eratoneura) spinea* Young,  
 1952b:120  
*Eratoneura spinea* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, compressed, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at middle, denticulate ventrally. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved ventrad, broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Story Co., Ames, 1 VII 1895 (Ball), (OSU).

**Distribution:** North of central USA.

**Host plants:** *Acer saccharum*.



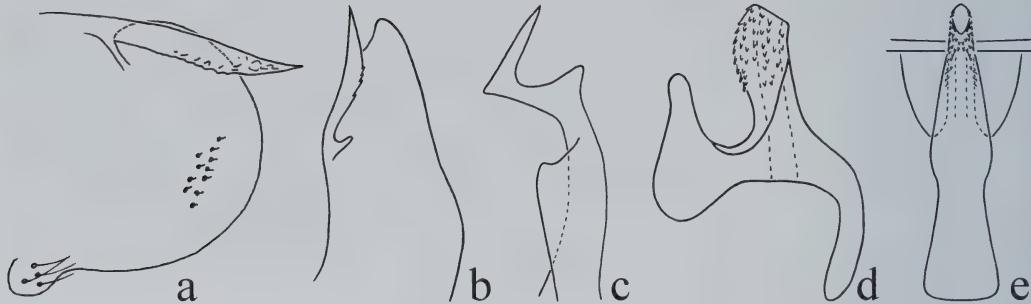


Figure 54. *E. spinea* (Knoll). a – from Hepner (unpublished).

55. *Eratoneura rotunda* (Beamer, 1931) (Fig. 55,  
Plates 1h, 4n)

*Erythroneura rotunda* Beamer,  
1931d:288

*Erythroneura (Eratoneura) rotunda*  
Young, 1952b:87

*Eratoneura rotunda* Dietrich & Dmitriev,  
2006a:138



**Description:** Length 2.8–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base or at middle. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with dorsal carina, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Oman), (KSEM).

**Distribution:** Central USA, one male recorded from west Texas.

**Host plants:** *Acer saccharum*.

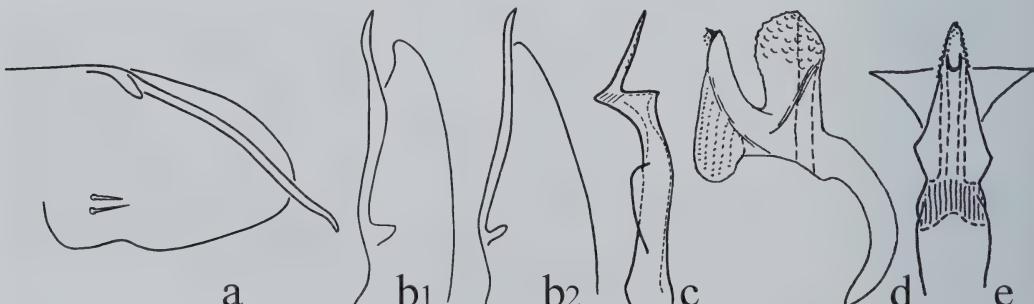
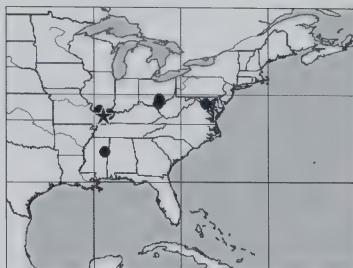


Figure 55. *E. rotunda* (Beamer). b<sub>1</sub>–b<sub>2</sub> – variation of shape of the pygofer appendage; c–e – from Ross (1958a).

**56. *Eratoneura nigriventer* (Beamer, 1931) (Fig. 56, Plate 4o)**

*Erythroneura nigriventer* Beamer, 1931a:134  
*Erythroneura (Eratoneura) nigriventer* Young,  
 1952b:87  
*Eratoneura nigriventer* Dietrich & Dmitriev,  
 2006a:137



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, flattened, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsad, broad in lateral view, round in crosssection, denticulate distally, without lateral lobes of processes; apex blunt in ventral view. Coloration usual for genus, abdomen with dark venter and dorsum.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Betula nigra*.

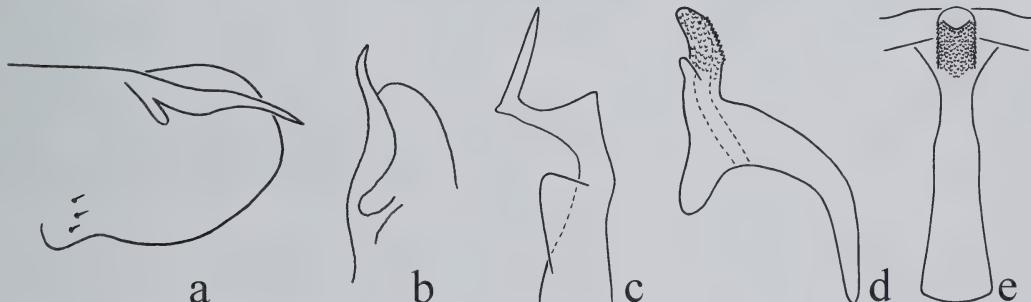


Figure 56. *E. nigriventer* (Beamer). c – holotype; b – from Hepner (unpublished).

**57. *Eratoneura stupkaorum* (Knoll, 1945) (Fig. 57, Plate 4p)**

*Erythroneura stupkaorum* Knoll, 1945b:104  
*Erythroneura (Eratoneura) stupkaorum* Young,  
 1952b:88  
*Eratoneura stupkaorum* Dietrich & Dmitriev,  
 2006a:138



**Description:** Length 3.1–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at middle, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Tennessee, Sevier Co., Great Smoky Mountain National Park, 5000 to 6000 ft., 14 IV 1942 (Knoll), (OSU).

**Distribution:** Tennessee, Ohio.

**Host plants:** Unknown.

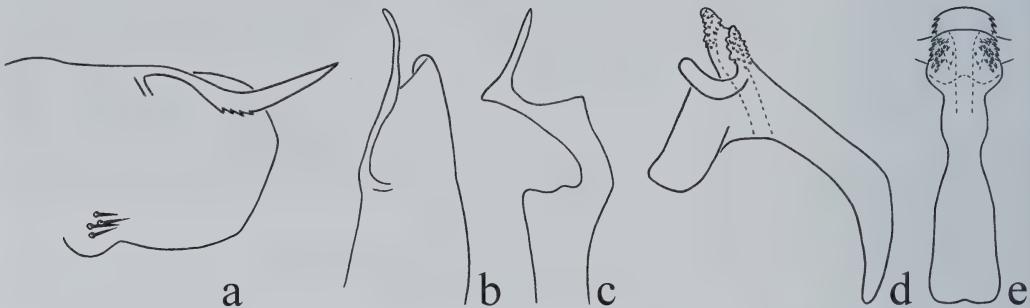


Figure 57. *E. stupkaorum* (Knoll). a – e – paratype.

58. *Eratoneura usitata* (Beamer, 1932) (Fig. 58, Plate 4q)

*Erythroneura usitata* Beamer, 1932a:14

*Erythroneura (Eratoneura) usitata* Young, 1952b:88

*Eratoneura usitata* Dietrich & Dmitriev, 2006a:139



**Description:** Length 3–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal and lateral view, widest at middle, denticulate at apex.

Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally; with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Platanus occidentalis*.

**Notes:** The holotype was collected on 30 III 1929, not on 3 III 1929 as stated in the original publication.

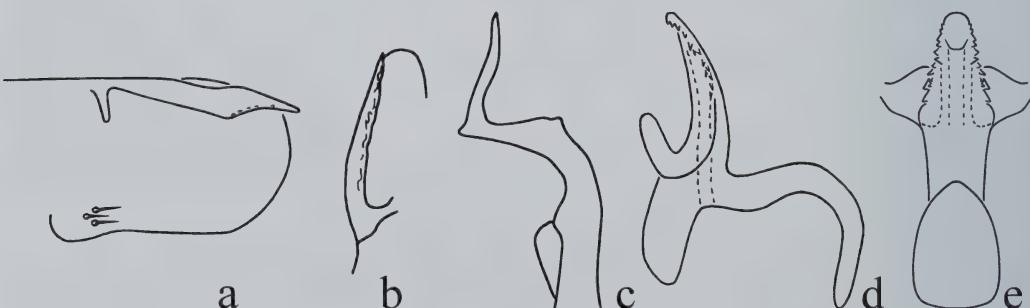


Figure 58. *E. usitata* (Beamer). b – from Hepner (unpublished).

59. *Eratoneura incondita* (Beamer, 1932) (Fig. 59, Plate 4r)

*Erythroneura incondita* Beamer, 1932a:16

*Erythroneura (Eratoneura) incondita* Young,  
1952b:87

*Eratoneura incondita* Dietrich & Dmitriev,  
2006a:136



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal and lateral view, widest at middle, denticulate distally. Second point of style apex very short, toothlike; third point elongate, as long as distance between other two points or shorter; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** North of central USA.

**Host plants:** *Acer saccharum*.

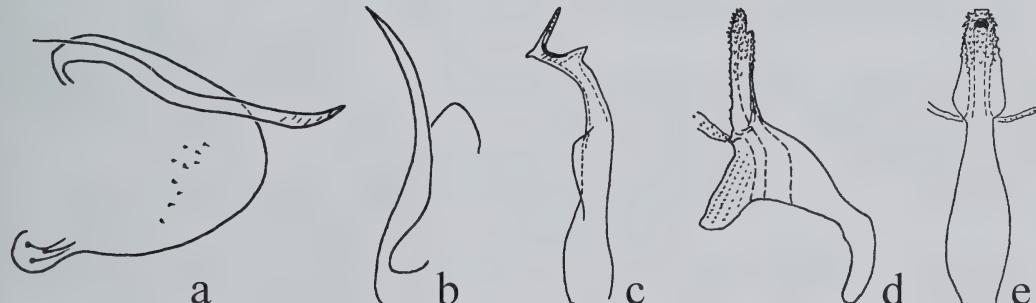


Figure 59. *E. incondita* (Beamer). a–b – from Hepner (unpublished); c – e – from Ross (1958a).

60. *Eratoneura ingrata* (Beamer, 1932) (Fig. 60, Plate 4s)

*Erythroneura ingrata* Beamer, 1932g:160

*Erythroneura (Eratoneura) ingrata* Young, 1952b:87  
*Eratoneura ingrata* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, compressed, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate distally. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., 30 III 1929 (Oman), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Platanus occidentalis*.

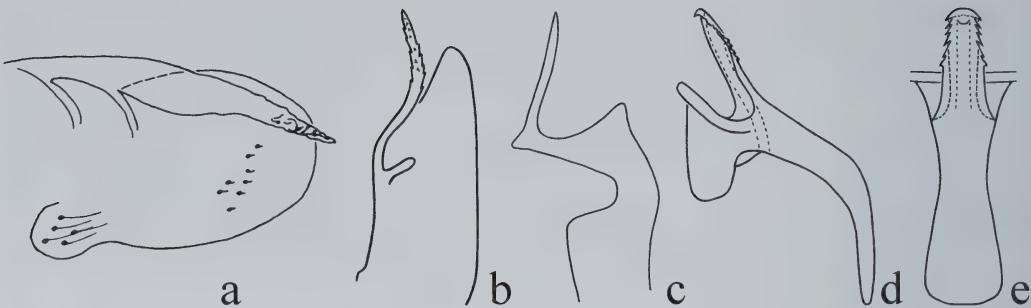


Figure 60. *E. ingrata* (Beamer). c – holotype; a – from Hepner (unpublished).

61. *Eratoneura arenosa* (Ross & DeLong, 1950) (Fig. 61, Plate 4t)

*Erythroneura arenosa* Ross & DeLong, 1950a:295

*Erythroneura (Eratoneura) arenosa* Young,  
1952b:120

*Eratoneura arenosa* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.4–2.8 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with dorsal carina, with lateral lobes at base, without processes; apex blunt in ventral view, abruptly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Cook Co., Thornton, on *Corylus americana*, 7 IX 1949 (Ross & Stannard), (INHS).

**Distribution:** North central USA.

**Host plants:** *Corylus americana*.

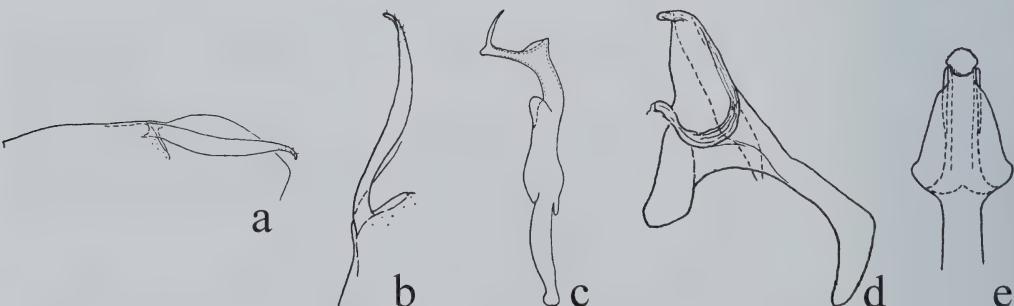


Figure 61. *E. arenosa* (Ross & DeLong). a–e – from Ross & DeLong (1950a).

**62. *Eratoneura uncinata* (Beamer, 1931) (Fig. 62, Plate 4u)**

*Erythroneura uncinata* Beamer, 1931b:242

*Erythroneura (Eratoneura) uncinata* Young,  
1952b:88

*Erythroneura doeringae* Hepner, 1975a:7, **syn.n.**

*Eratoneura uncinata* Dietrich & Dmitriev,  
2006a:139



**Description:** Length 2.4–2.6 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, compressed, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex broadened in ventral view, sharply bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Corylus americana*.

**Notes:** The holotype was collected on 28 IV 1928, not on 4 IV 1928 as stated in the original publication.

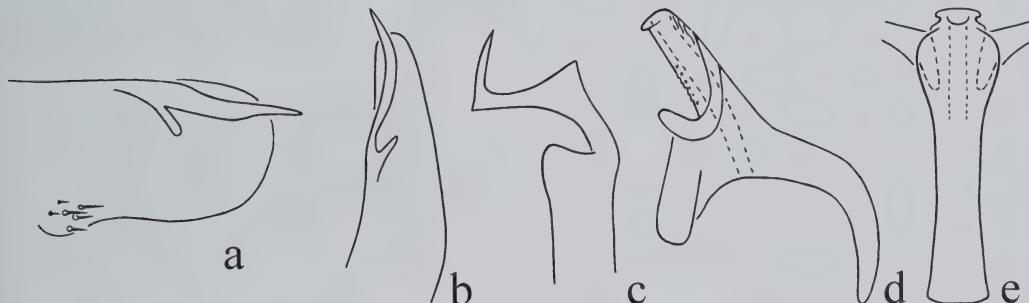


Figure 62. *E. uncinata* (Beamer). c – holotype.

**63. *Eratoneura arpegia* (Ross, 1957) (Fig. 63, Plate 4v)**

*Erythroneura arpegia* Ross, 1957a:188

*Eratoneura arpegia* Dietrich & Dmitriev, 2006a:134



**Description:** Length 3–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, compressed in distal half, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Mesonotum dark brown, forewing without oblique vittae, with 3 narrow crossbands

**Type locality:** Holotype ♂, USA, Illinois, Adams Co., N. Kinderhook, on *Quercus imbricaria*, 9 IX 1954 (Ross & Stannard), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus imbricaria*.

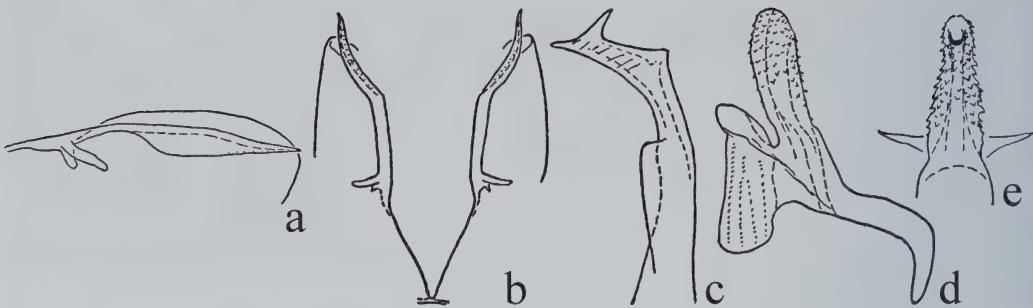


Figure 63. *E. arpegia* (Ross). a–e – from Ross (1957a).

**64. *Eratoneura propria* (Beamer, 1932) (Fig. 64, Plate 4w)**

*Erythroneura propria* Beamer, 1932a:13

*Erythroneura (Eratoneura) propria* Young, 1952b:87

*Eratoneura propria* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle, denticulate. Second and third points of style apex very short, tooth-like. Aedeagus with preatrium as long as shaft or shorter; shaft straight and broad in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus chapmanii*, *Q. stellata*, *Q. prinus*, *Q. marilandica*, *Q. myrtifolia*, and other species of *Quercus*.

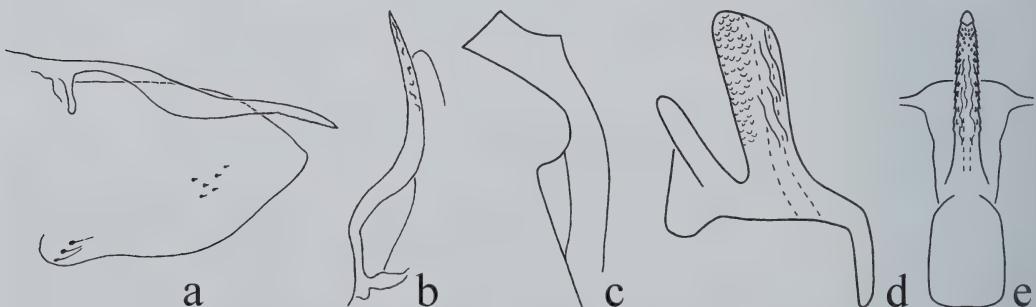


Figure 64. *E. propria* (Beamer). a–b – from Hepner (unpublished).

**65. *Eratoneura brevipes* (Beamer, 1931) (Fig. 65, Plate 5a)**

*Erythroneura brevipes* Beamer, 1931a:133

*Erythroneura (Eratoneura) brevipes* Young, 1952b:86

*Eratoneura brevipes* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal



apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, compressed, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Oklahoma, Le Flore Co., on *Quercus* sp., 24 V 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Quercus marilandica*, *Q. nigra*, *Q. macrocarpa*, *Q. stellata*, and other species of *Quercus*.

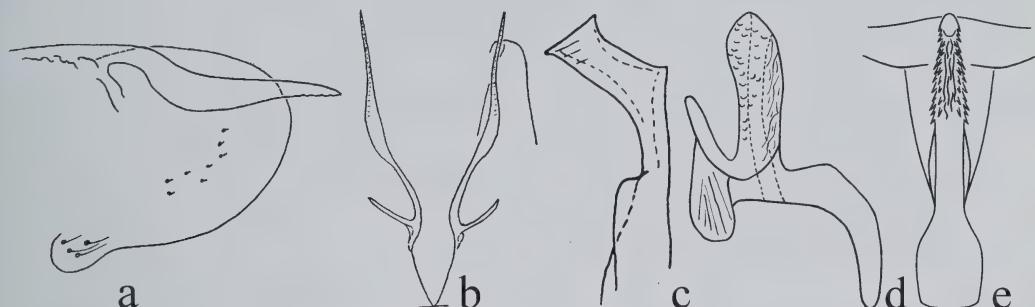


Figure 65. *E. brevipes* (Beamer). a – from Hepner (unpublished); b–c – from Ross (1958a).

#### 66. *Eratoneura turgida* (Beamer, 1931) (Fig. 66, Plate 5b)

*Erythroneura turgida* Beamer, 1931b:243

*Erythroneura (Eratoneura) turgida* Young, 1952b:88

*Erythroneura ratcliffensis* Hepner, 1966a:85, *syn.n.*

*Eratoneura turgida* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Carya glabra*, *C. tomentosa*, *C. carolinae-septentrionalis*, *C. aquatica*, *C. ovata*, and other species of *Carya*.

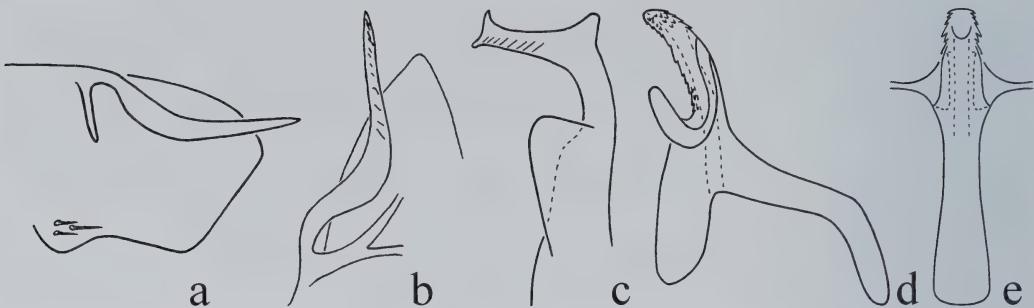


Figure 66. *E. turgida* (Beamer). c – holotype; b – from Hepner (unpublished).

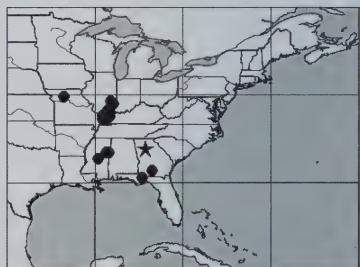
**67. *Eratoneura delongi* (Knoll & Auten, 1937) (Fig. 67, Plate 5c)**

*Erythroneura delongi* Knoll & Auten, 1937a:574

*Erythroneura (Eratoneura) delongi* Young, 1952b:86

*Erythroneura paluloides* Ross, 1953b:189, **syn.n.**

*Eratoneura delongi* Dietrich & Dmitriev, 2006a:135



**Description:** Length 3–3.3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, compressed in distal half, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally; with lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Georgia, DeKalb Co., Decatur, Agnes Scott College Campus, on *Cryptomeria japonica*, 17 IV 1934 (Auten), (OSU).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus nigra*, *Q. palustris*, *Q. laurifolia*, and other species of *Quercus*.

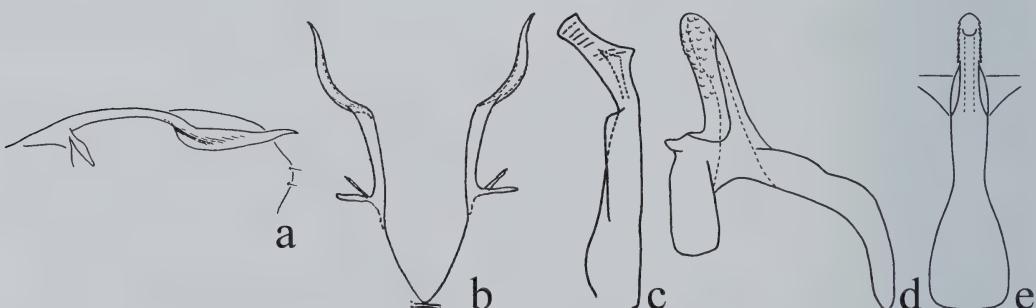


Figure 67. *E. delongi* (Knoll & Auten). a, c – from Ross (1953b); b – from Ross (1958a).

68. *Eratoneura immota* (Beamer, 1932) (Fig. 68, Plate 5d)*Erythroneura immota* Beamer, 1932a:16*Erythroneura (Eratoneura) immota* Young, 1952b:87*Eratoneura immota* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, compressed in distal half, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes, apex acuminate in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Texas, Bowie Co., 16 VIII 1928 (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus phellos*, *Q. laurifolia*, *Q. nigra*, and other species of *Quercus*.

**Notes:** The holotype was collected on 16 VIII 1928, not on 8 VIII 1928 as stated in the original publication.

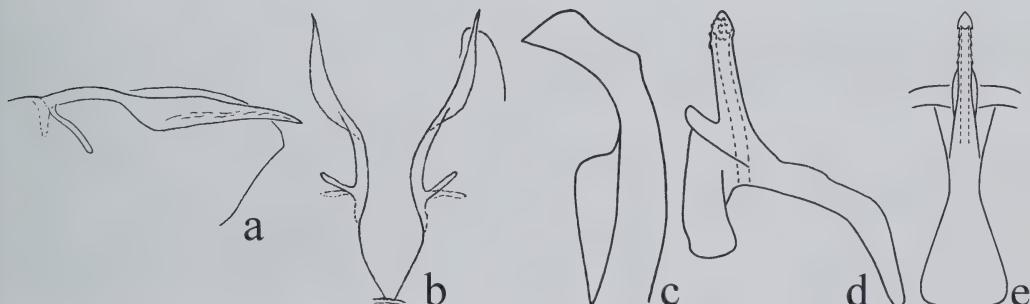


Figure 68. *E. immota* (Beamer). c – holotype; a–b – from Ross (1958a).

69. *Eratoneura tantilla* (Beamer, 1931) (Fig. 69, Plate 5e)*Erythroneura tantilla* Beamer, 1931d:285*Erythroneura (Eratoneura) tantilla* Young, 1952b:88*Erythroneura freytagi* Hepner, 1966a:83, *syn.n.**Erythroneura amboiensis* Hepner, 1972a:431, *syn.n.**Erythroneura alveyi* Hepner, 1972c:269, *syn.n.**Erythroneura atkinsoni* Hepner, 1972c:270, *syn.n.**Eratoneura tantilla* Dietrich & Dmitriev, 2006a:138

**Description:** Length 3–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at middle, denticulate distally. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus stellata*, *Q. macrocarpa*, *Q. phellos*, *Q. prinus*, and other species of *Quercus*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape of the pygofer appendage, style, and aedeagus (Fig. 69).

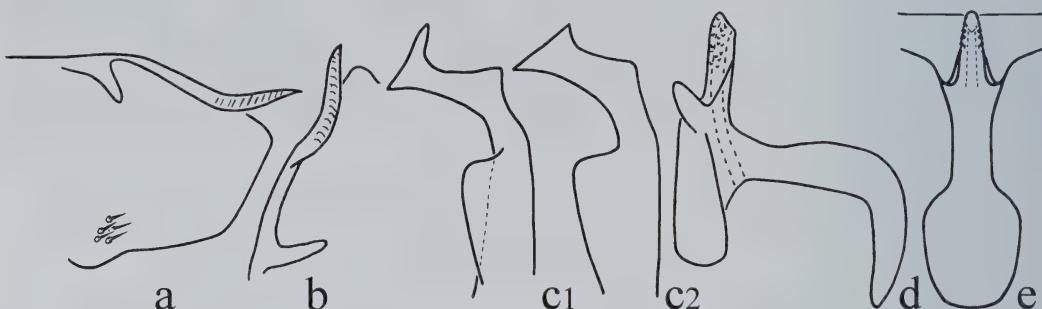


Figure 69. *E. tantilla* (Beamer). c<sub>1</sub>–c<sub>2</sub> – variation of shape of the style; c<sub>1</sub>, d – holotype; c<sub>2</sub> – paratype of *E. freytagi* Hepner; b – from Hepner (unpublished).

70. *Eratoneura sorota* (Hepner, 1975) (Fig. 70, Plate 5f)

*Erythroneura sorota* Hepner, 1975a:5

*Eratoneura sorota* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at middle, denticulate. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Clinton Co., Carlyle, on *Carya ovata*, 15 VIII 1951 (Ross & Stannard), (INHS).

**Distribution:** Central USA.

**Host plants:** *Carya illinoiensis*, *C. ovata*, and *C. aquatica*.

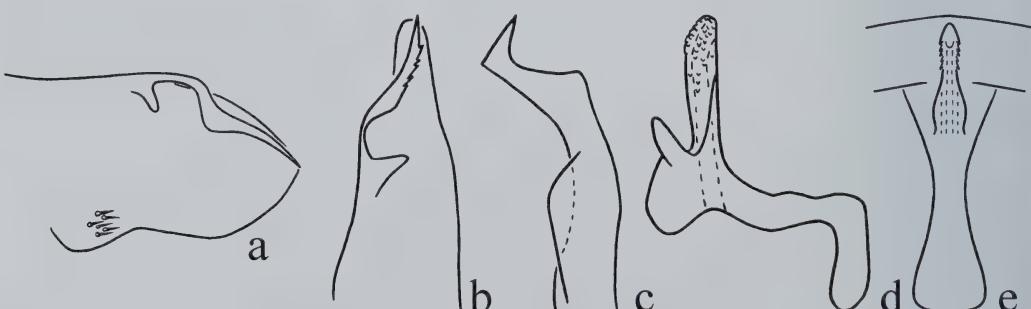


Figure 70. *E. sorota* (Hepner). a–e – holotype.

**71. *Eratoneura solita* (Beamer, 1932) (Fig. 71, Plate 5g)**

*Erythroneura solita* Beamer, 1932a:14

*Erythroneura (Eratoneura) solita* Young, 1952b:87

*Eratoneura solita* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view or slightly curved ventrad, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Lawrence Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** North of central USA, south of central Canada.

**Host plants:** *Quercus macrocarpa*, *Q. bicolor*.

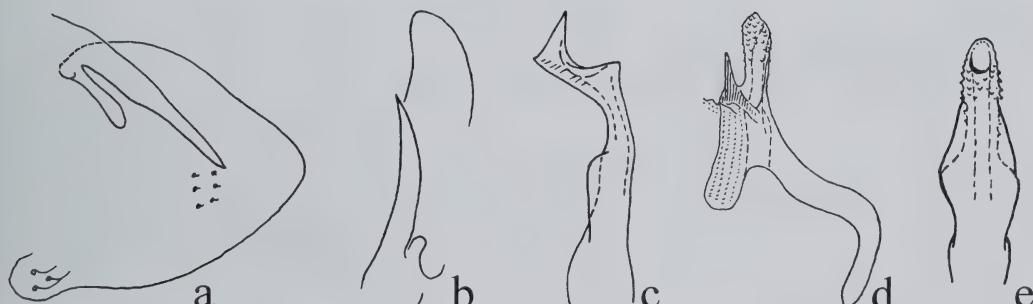


Figure 71. *E. solita* (Beamer). a–b – from Hepner (unpublished); c–e – from Ross (1958a).

**72. *Eratoneura knullae* (Ross, 1953) (Fig. 72, Plate 5h)**

*Erythroneura knullae* Ross, 1953b:192

*Erythroneura solida* Knoll, 1954b:171, syn.n.

*Erythroneura blockerii* Hepner, 1967b:72, syn.n.

*Erythroneura pumicasta* Hepner, 1967b:72, syn.n.

*Eratoneura knullae* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view or curved ventrad, round in crossection or compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., Grantsburg, on *Quercus palustris*, 31 VIII 1951 (Richards & Ross), (INHS).

**Distribution:** Central and eastern USA.



**Host plants:** *Quercus lyrata*, *Q. nigra*, *Q. palustris*, and other species of *Quercus*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape of the pygofer appendage and aedeagus (Fig. 72).

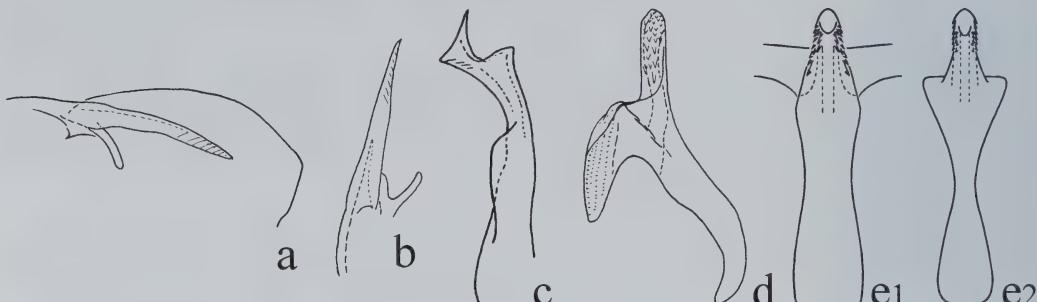


Figure 72. *E. knullae* (Ross). e1–e2 – variation of shape of the aedeagus; e1 – holotype; a–d – from Ross (1953b).

73. *Eratoneura omani* (Beamer, 1930) (Fig. 73, Plate 5i)

*Erythroneura omani* Beamer, 1930a:49

*Erythroneura (Eratoneura) omani* Young, 1952b:87

*Eratoneura omani* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with small dorsal distal lobe, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., 10 IX 1929 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Malus* sp. Recorded as a pest by Beamer (1930a, 1932b).



Figure 73. *E. omani* (Beamer).

74. *Eratoneura mimica* (Ross, 1957) (Fig. 74, Plate 5j)*Erythroneura mimica* Ross, 1957a:190*Erythroneura brucensis* Hepner, 1975a:6, **syn.n.***Eratoneura mimica* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.9–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with denticulate lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Ogle Co., Oregon, on *Quercus rubra* var. *ambigua*, 15 IX 1955 (Ross & Stannard), (INHS).

**Distribution:** Central and northeastern USA, southeastern Canada.

**Host plants:** *Quercus rubra* var. *ambigua* and probably other species of *Quercus*.

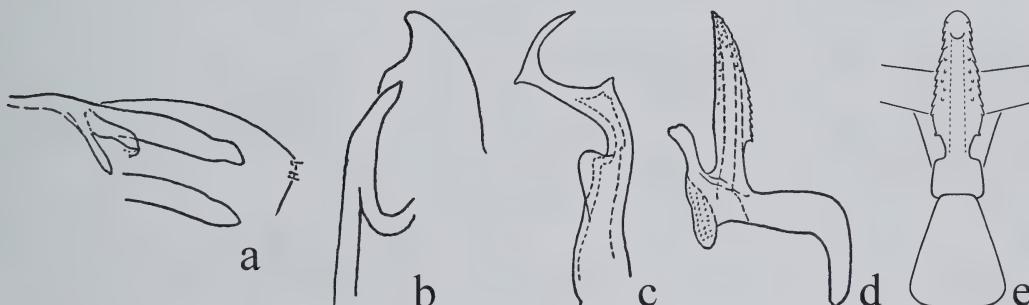


Figure 74. *E. mimica* (Ross). a, c, d – from Ross (1957a); b – from Hepner (unpublished).

75. *Eratoneura sancta* (Beamer, 1932) (Fig. 75, Plate 5k)*Erythroneura sancta* Beamer, 1932a:15*Erythroneura (Eratoneura) sancta* Young, 1952b:88*Erythroneura acericola* Ross & DeLong, 1953a:88, **syn.n.***Eratoneura sancta* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, with denticulate lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 3 III 1929 (Oman), (KSEM).

**Distribution:** Central USA, south central Canada.

**Host plants:** *Acer saccharum*.

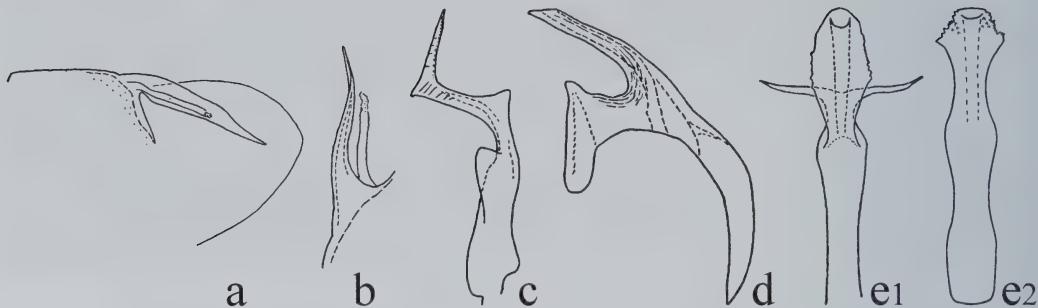


Figure 75. *E. sancta* (Beamer). e1–e2 – variation of shape of the aedeagus; e1 – var. *acericola* Ross & DeLong; e2 – holotype; a–e1 – from Ross & DeLong (1953a).

76. *Eratoneura inksana* (Knoll, 1954) (Fig. 76, Plate 5l)

*Erythroneura inksana* Knoll, 1954b:170

*Erythroneura cavigierra* Hepner, 1967b:64, syn.n.

*Eratoneura inksana* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.7–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Texas, Burnet Co., Inks Lake State Park, on *Quercus* sp., 5 IV 1953 (Knoll), (OSU).

**Distribution:** Texas, southern Illinois.

**Host plants:** *Quercus stellata*.

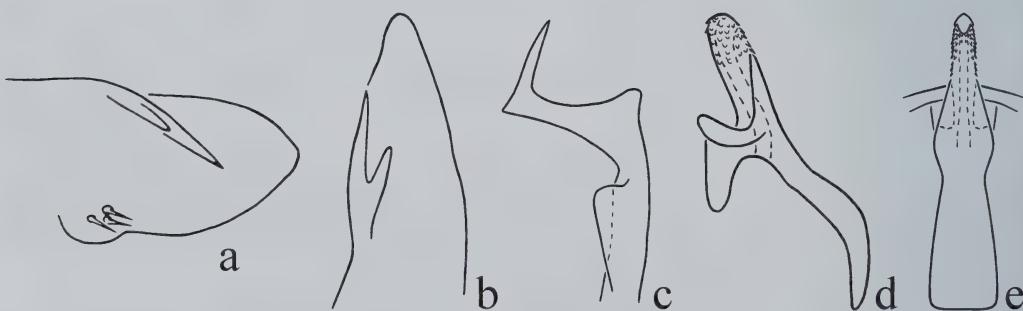


Figure 76. *E. inksana* (Knoll).

**77. *Eratoneura alloplana* (Ross, 1956) (Fig. 77, Plate 5m)**

*Erythroneura alloplana* Ross, 1956a:88

*Eratoneura alloplana* Dietrich & Dmitriev,  
2006a:134

**Description:** Length 2.9–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Mason Co., Forest City, on *Quercus marilandica*, 11 IX 1953 (Sanderson & Ross), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, *Q. marilandica*, and other species of *Quercus*.

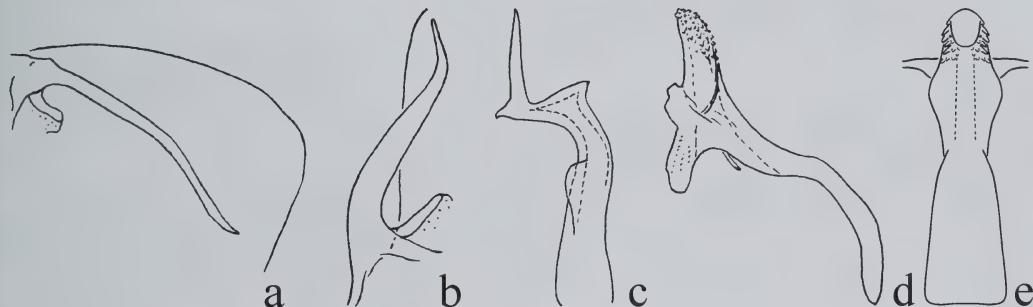


Figure 77. *E. alloplana* (Ross). e – holotype, a–d – from Ross (1956a).

**78. *Eratoneura parva* (Beamer, 1932) (Fig. 78, Plate 5n)**

*Erythroneura parva* Beamer, 1932d:70

*Erythroneura (Eratoneura) parva* Young, 1952b:87

*Erythroneura vacua* Knnull, 1954b:174, syn.n.

*Erythroneura kirki* Hepner, 1967b:64, syn.n.

*Eratoneura parva* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, round in crosssection, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Louisiana, Natchitoches Co., Natchitoches Parish, 16 VIII 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus stellata*, *Q. prinus*, and other species of *Quercus*.



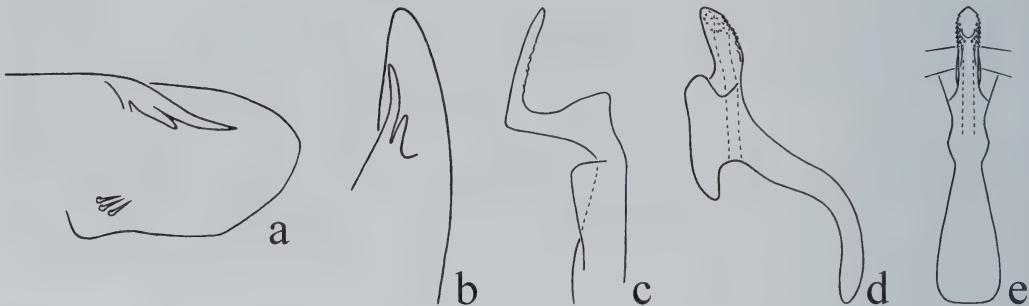


Figure 78. *E. parva* (Beamer). c – holotype.

**79. *Eratoneura mirifica* (Beamer, 1932) (Fig. 79, Plate 5o)**

*Erythroneura mirifica* Beamer, 1932d:159

*Erythroneura (Eratoneura) mirifica* Young,  
1952b:87

*Erythroneura nielsoni* Hepner, 1967b:62, **syn.n.**

*Erythroneura nielsoni* Hepner, 1967b:65, missp.

*Eratoneura mirifica* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally; with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Oman), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus bicolor*, *Q. lyrata*, *Q. macrocarpa*, and other species of *Quercus*.

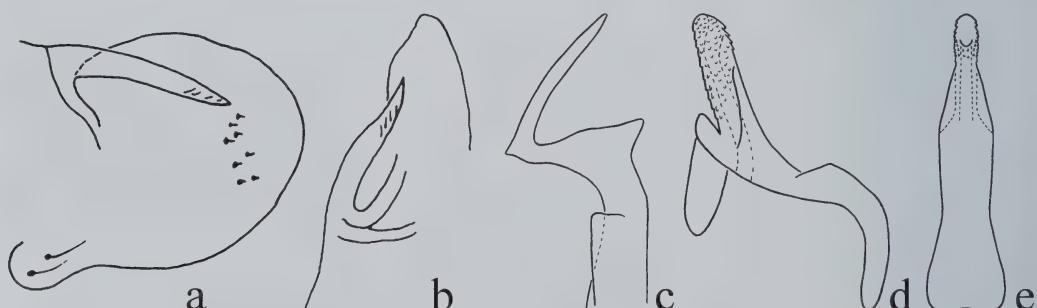


Figure 79. *E. mirifica* (Beamer). c – holotype; a–b – from Hepner (unpublished).

80. *Eratoneura abjecta* (Beamer, 1931) (Fig. 80, Plate 5p)*Erythroneura abjecta* Beamer, 1931d:288*Erythroneura (Eratoneura) abjecta* Young, 1952b:86*Eratoneura abjecta* Dietrich & Dmitriev, 2006a:133

**Description:** Length 2.8–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Quercus rubra*, *Q. alba*, *Q. velutina*, and other species of *Quercus*.

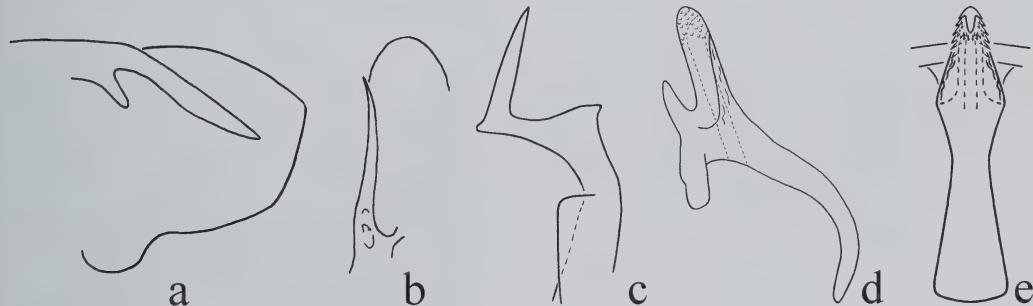


Figure 80. *E. abjecta* (Beamer). c – holotype; b – from Hepner (unpublished).

81. *Eratoneura hartii* (Gillette, 1898) (Fig. 81, Plate 5q)*Typhlocyba hartii* Gillette, 1898a:754*Typhlocyba harti* Wirtner, 1904a:227, missp.*Erythroneura hartii* Van Duzee, 1916a:77*Erythroneura (Eratoneura) hartii* Young, 1952b:88*Eratoneura hartii* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, round in cross-section, smooth, without lateral lobes or processes; apex broadened in ventral view, depressed, sharply bent dorsad. Forewings large red with yellow costal margin, apices and diamond shaped spot in middle.

**Type locality:** Lectotype ♂, USA, Illinois, Champaign Co., Champaign, 22–23 IV 1895, #14873 (Hart), (CSUC), with the label “CSU29”, here designated.



**Studied material:** Paralectotypes 1 ♂, USA, Illinois, Champaign Co., Champaign, 22–23 IV 1895, #14877, (Hart), (CSUC); 1 ♀, same locality and date, (INHS), here designated.

**Distribution:** Central and eastern USA.

**Host plants:** *Malus ioensis*, *M. pumila*.

**Notes:** We designate a lectotype from the original series of syntypes to stabilize the concept of this species name.

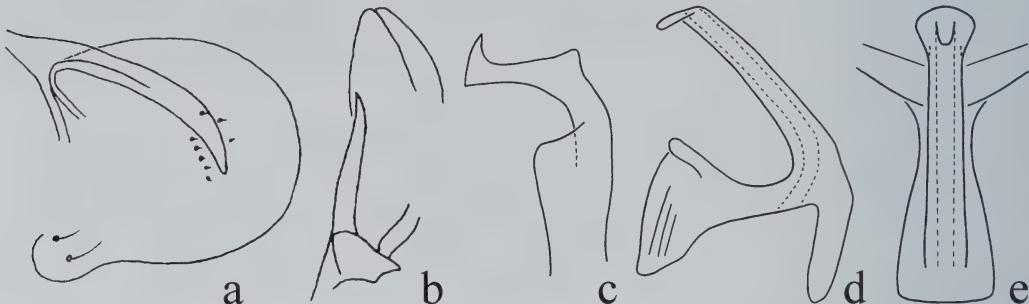


Figure 81. *E. hartii* (Gillette). a–b – from Hepner (unpublished).

82. *Eratoneura misera* (Beamer, 1932) (Fig. 82, Plate 5r)

*Erythroneura misera* Beamer, 1932g:158

*Erythroneura ventura* Knoll & Auten,  
1937a:577, syn.n.

*Erythroneura (Eratoneura) misera*  
Young, 1952b:87

*Eratoneura misera* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 2.5–2.6 mm. Forewing

outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; aedeagal shaft straight and broad in lateral view, depressed, denticulate distally, without processes or lateral lobes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southern Canada.

**Host plants:** *Carpinus caroliniana*.

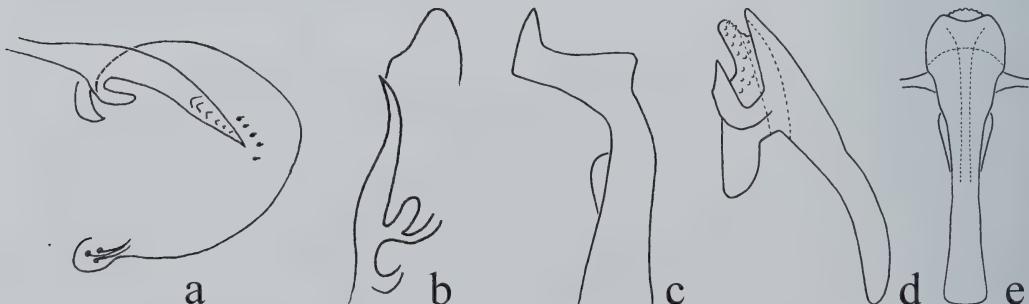


Figure 82. *E. misera* (Beamer). a–b – from Hepner (unpublished).

83. *Eratoneura nevadensis* (Beamer, 1932) (Fig. 83, Plate 5s)

*Erythroneura nevadensis* Beamer, 1932d:72

*Erythroneura (Eratoneura) nevadensis* Young,  
1952b:87

*Eratoneura nevadensis* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell about 2X as long as wide. Pygofer lobe rounded. Pygofer appendage simple, not extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view or curved dorsad, compressed, denticulate distally, without lateral lobes or processes; apex broadened in ventral view. Coloration usual for genus, mesonotum with dark brown apex.

**Type locality:** Holotype ♂, USA, Nevada, Carson City Co., Carson City, 9 VIII 1929 (Beamer), (KSEM).

**Distribution:** The species is known only from the type locality in Nevada.

**Host plants:** Unknown.

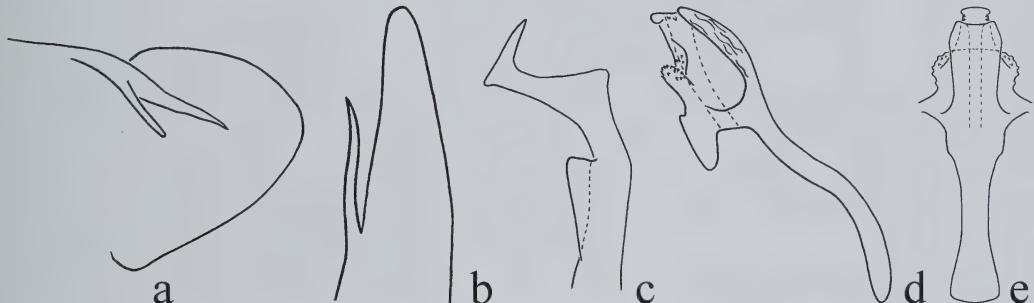


Figure 83. *E. nevadensis* (Beamer). a – holotype; b–e – paratype.

84. *Eratoneura lata* (Beamer, 1932) (Fig. 84, Plate 5t)

*Erythroneura lata* Beamer, 1932e:86

*Erythroneura (Eratoneura) lata* Young, 1952b:88

*Eratoneura lata* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, compressed, not extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Glen Echo, 22 II 1931 (Oman), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Cornus florida*.

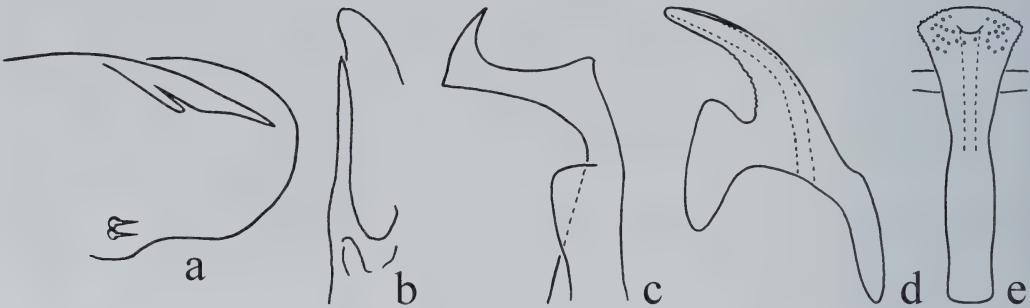


Figure 84. *E. lata* (Beamer). c – holotype; b – from Hepner (unpublished).

85. *Eratoneura levecki* (Hepner, 1966) (Fig. 85, Plate 5u)

*Erythroneura levecki* Hepner, 1966b:99

*Eratoneura levecki* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second and third points of style apex very short, toothlike.

Aedeagus with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, round in crosssection, denticulate distally, with lateral lobes, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 9 II 1963 (Hepner), (INHS).

**Distribution:** Central and northeastern USA.

**Host plants:** *Quercus alba*.

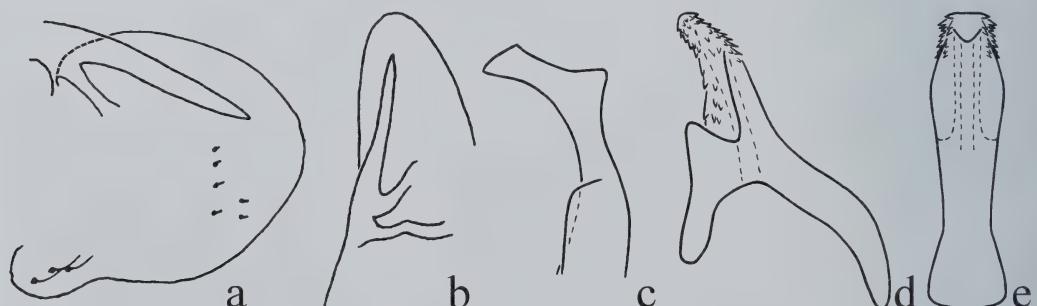


Figure 85. *E. levecki* (Hepner). c–e – holotype; a–b – from Hepner (unpublished).

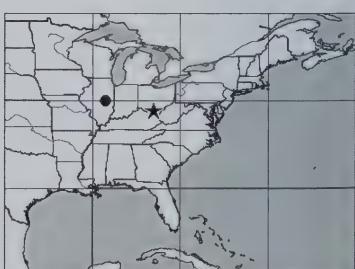
86. *Eratoneura tantula* (Knoll, 1954) (Fig. 86, Plate 5v)

*Erythroneura tantula* Knoll, 1954b:171

*Erythroneura whitcombi* Hepner, 1975a:6, syn.n.

*Eratoneura tantula* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex,



slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points more than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, depressed, smooth, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Scioto Co., 9 VI 1943 (Knoll), (OSU).

**Distribution:** North of central USA.

**Host plants:** ? *Ulmus rubra*.

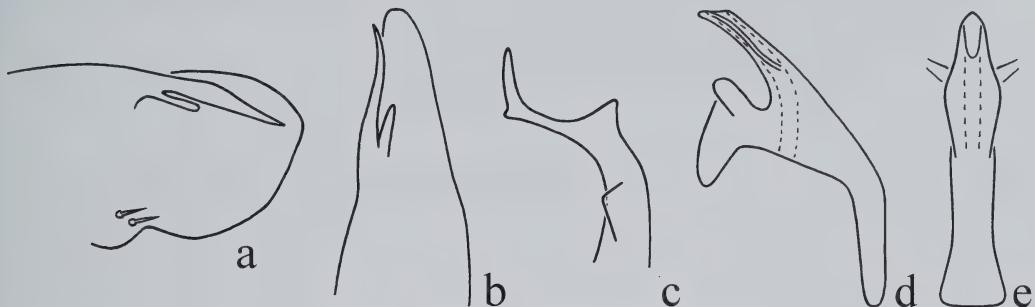


Figure 86. *E. tantula* (Knoll).

87. *Eratoneura beeri* (Hepner, 1972) (Fig. 87, Plate 6a)

*Erythroneura beeri* Hepner, 1972c:272

*Eratoneura beeri* Dietrich & Dmitriev, 2006a:134

**Description:** Length 3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, White Co., Enfield, 13 IV 1960 (Ross & Cunningham), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus* sp.

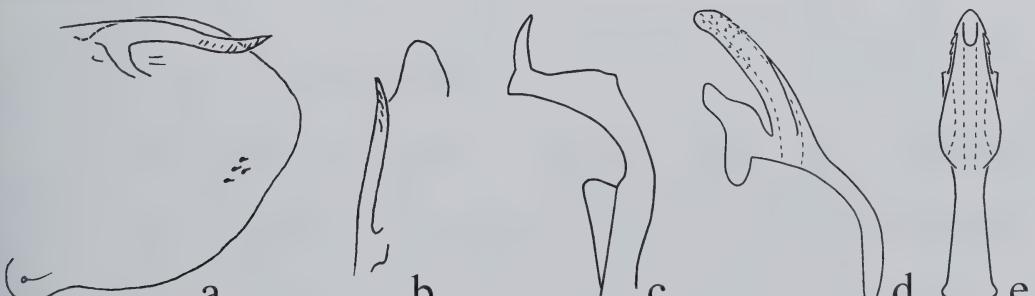


Figure 87. *E. beeri* (Hepner). c–e – paratype; a–b – from Hepner (unpublished).

88. *Eratoneura accita* (Knoll, 1954) (Fig. 88, Plate 6b)*Erythroneura accita* Knoll, 1954b:170*Eratoneura accita* Dietrich & Dmitriev, 2006a:133

**Description:** Length 2.9–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 12 IV 1945 (Knoll), (OSU).

**Distribution:** The species is known only from the type locality in Ohio.

**Host plants:** Unknown.

**Notes:** The genitalia of the holotype are mounted on a slide.

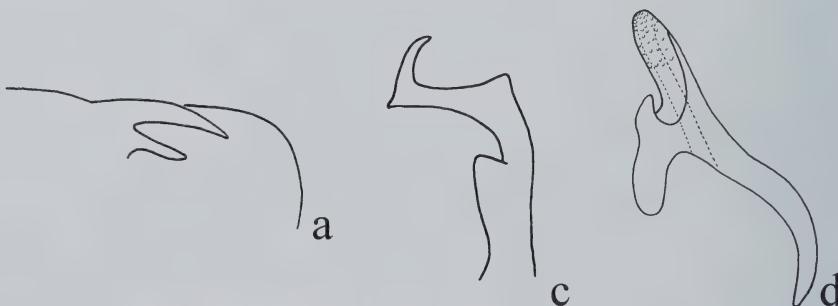


Figure 88. *E. accita* (Knoll). a – paratype; c-d – holotype.

89. *Eratoneura cera* (Hepner, 1966) (Fig. 89, Plate 6c)*Erythroneura cera* Hepner, 1966d:105*Eratoneura cera* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage simple, not extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Jackson Co., Giant City State Park, on *Acer* sp., 27 VII 1951 (Richards & Sanderson), (INHS).

**Distribution:** The species is known only from the type locality in Illinois.

**Host plants:** *Acer saccharum*.



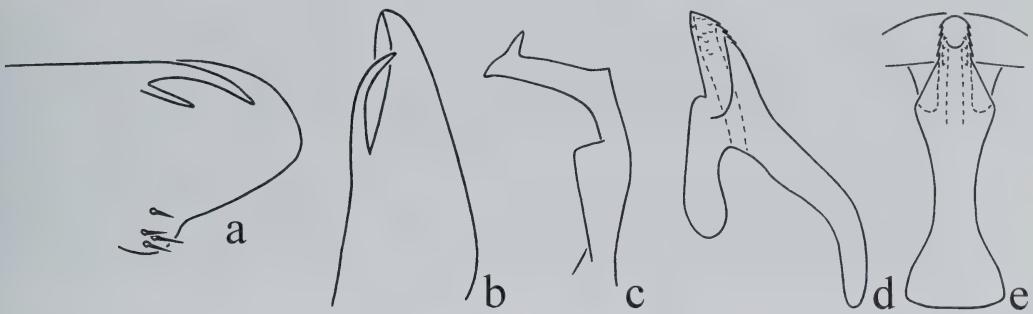


Figure 89. *E. cera* (Hepner). a-b – paratype; c-d – holotype.

**90. *Eratoneura rubraza* (Robinson, 1924) (Fig. 90, Plate 6d)**

*Erythroneura rubraza* Robinson, 1924c:291

*Erythroneura (Eratoneura) rubraza* Young,  
1952b:87

*Eratoneura rubraza* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.8–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe angulate; appendage simple, not extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in cross-section, denticulate distally, without lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus, maculae near apex of clavus slightly enlarged, could form narrow transverse band not reaching lateral margins of wings.

**Type locality:** Holotype ♂, USA, Kansas, Cherokee Co., 30 XII 1923 (Beamer), (KSEM).

**Distribution:** Kansas.

**Host plants:** Unknown.

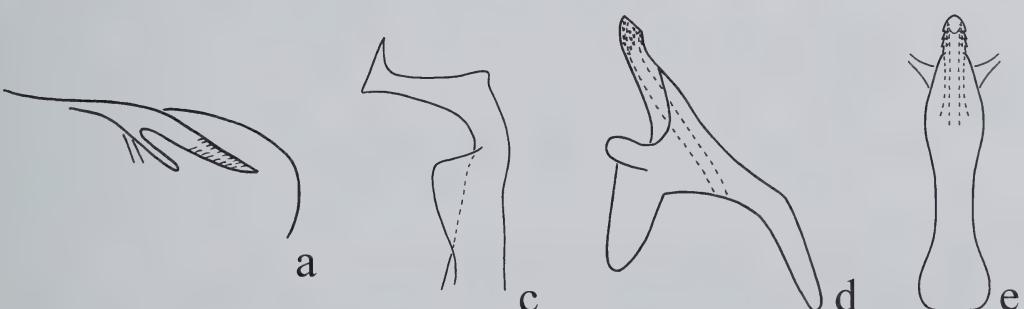


Figure 90. *E. rubraza* (Robinson).

91. *Eratoneura affinis* (Fitch, 1851) (Fig. 91, Plates 1a, 1e, 1f, 6e)

*Erythroneura affinis* Fitch, 1851a:63

*Erythroneura (Eratoneura) affinis* Young, 1952b:86

*Erythroneura rubida* Knull, 1954b:171, *syn.n.* (Plate 6e3)

*Erythroneura ferrosa* Hepner, 1966a:83, *syn.n.*

*Erythroneura asymmetra* Hepner, 1973a:186, *syn.n.*

*Erythroneura vulgaris* Hepner, 1975a:4, *syn.n.*

*Eratoneura affinis* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.7–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin or extended beyond it. Pygofer lobe rounded; appendage simple, extended or almost extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crossection or compressed, denticulate distally, with or without lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus, sometimes basal half of forewing darkened.

**Type locality:** Holotype ♀, USA, New York; “Allotype” by Beamer: ♂, Kansas, Douglas Co., 13 IV 1924 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA, southeastern Canada.

**Host plants:** *Ulmus rubra*, *U. americana*, *U. alata*.

**Notes:** The holotype of *E. asymmetra* Hepner has aberrant genitalia with an asymmetrical aedeagus. *E. vulgaris* Hepner was described for the color variation without a crossband on the forewing, although the holotype of *E. affinis* Fitch does not have any crossbands, and the form with crossbands is rare.

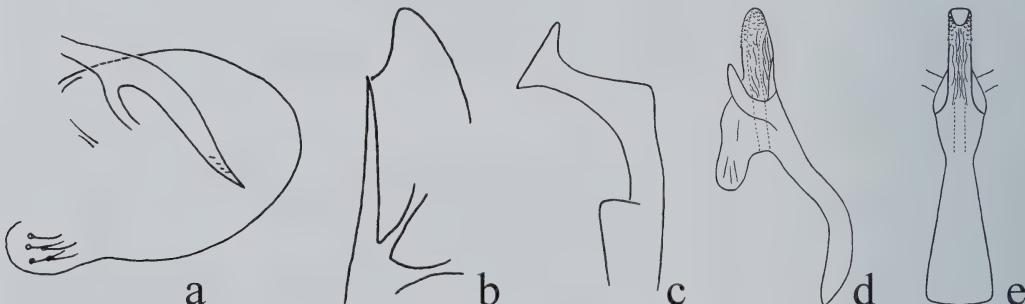


Figure 91. *E. affinis* (Fitch). a–b – from Hepner (unpublished).

92. *Eratoneura stephensi* (Beamer, 1931) (Fig. 92, Plate 6f)

*Erythroneura stephensi* Beamer, 1931a:130

*Erythroneura (Eratoneura) stephensi* Young, 1952b:88

*Eratoneura stephensi* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex,



slightly curved in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Dorsum pale, whitish; orange maculae small.

**Type locality:** Holotype ♂, USA, Texas, Bowie Co., 16 VIII 1929 (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus phellos*, *Q. coccinea*, *Q. marilandica*, *Q. shumardii*, *Q. laurifolia*, *Q. alba*, and other species of *Quercus*.

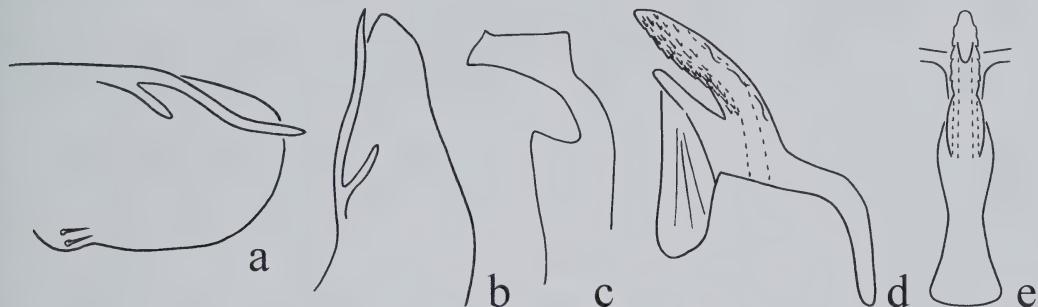


Figure 92. *E. stephensonii* (Beamer). c – holotype.

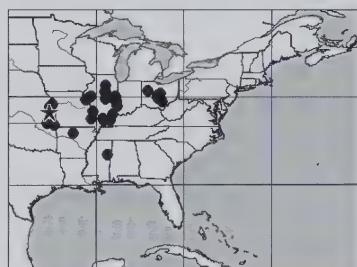
93. *Eratoneura clavipes* (Beamer, 1931) (Fig. 93, Plate 6g)

*Erythroneura clavipes* Beamer, 1931c:269

*Erythroneura (Eratoneura) clavipes* Young,

1952b:86

*Eratoneura clavipes* Dietrich & Dmitriev, 2006a:135



**Description:** Length 3.1–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, strongly curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium shorter than shaft; shaft strongly curved dorsad, broad in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 9 IX 1927 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Ulmus rubra*.

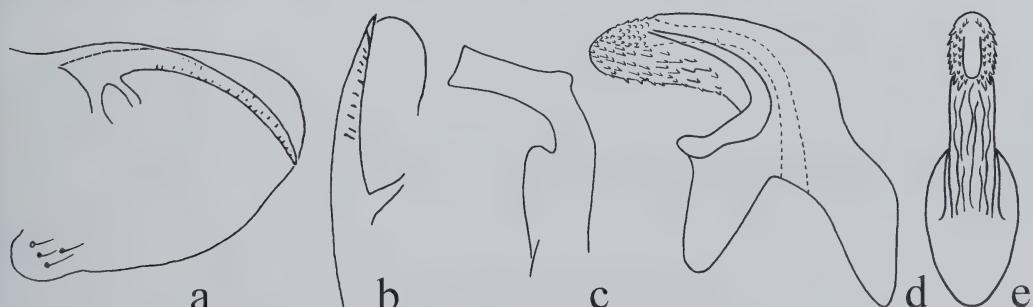


Figure 93. *E. clavipes* (Beamer). c – holotype; a–b – from Hepner (unpublished).

**94. *Eratoneura retusa* (Beamer, 1932) (Fig. 94, Plate 6h)**

*Erythroneura retusa* Beamer, 1932c:48

*Erythroneura (Eratoneura) retusa* Young, 1952b:87

*Eratoneura retusa* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with depressed apex, bent dorsad, without lateral lobes or processes. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Florida, Pasco Co., Lacoochee, 18 VIII 1930 (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus chapmanii*, *Q. stellata*.

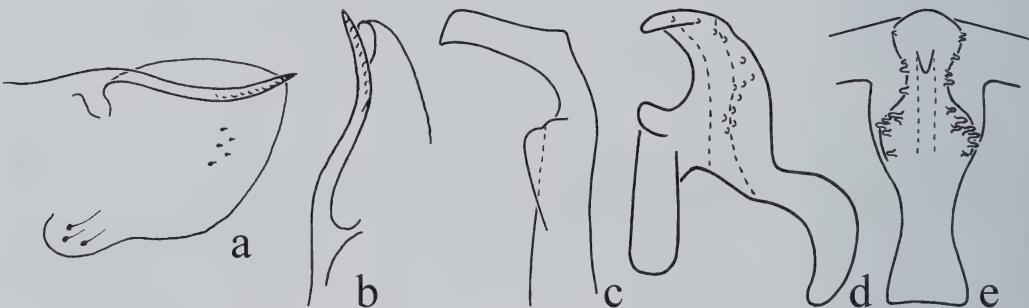


Figure 94. *E. retusa* (Beamer). c – holotype; a–b – from Hepner (unpublished).

**95. *Eratoneura hymac* (Robinson, 1924) (Fig. 95, Plate 6i)**

*Erythroneura hymac* Robinson, 1924a:60

*Erythroneura (Eratoneura) hymac* Young, 1952b:87

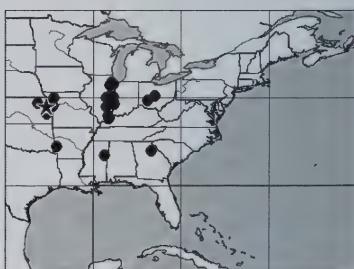
*Eratoneura hymac* Dietrich & Dmitriev, 2006a:136

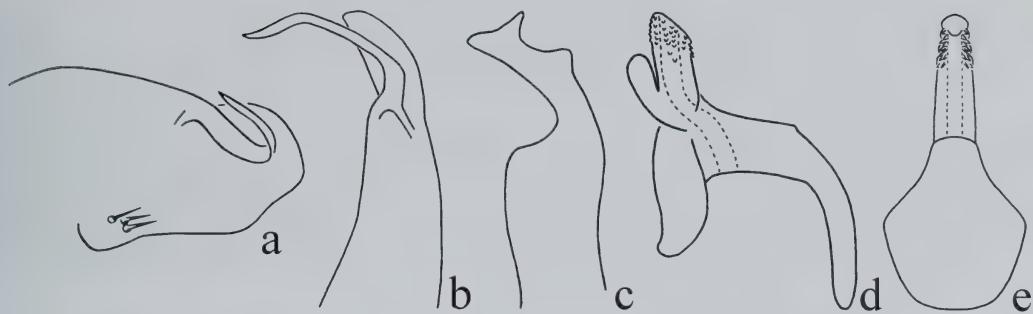
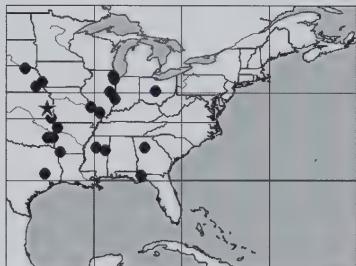
**Description:** Length 3–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, strongly curved inward in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, round in cross-section, denticulate distally; without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus; maculae small.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., 20 IV 1922 (Lawson), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Cercis canadensis*, *Quercus macrocarpa*.



Figure 95. *E. hymac* (Robinson).96. *Eratoneura externa* (Beamer, 1931) (Fig. 96, Plate 6j)*Erythroneura externa* Beamer, 1931d:289*Erythroneura (Eratoneura) externa* Young, 1952b:86*Eratoneura externa* Dietrich & Dmitriev, 2006a:135

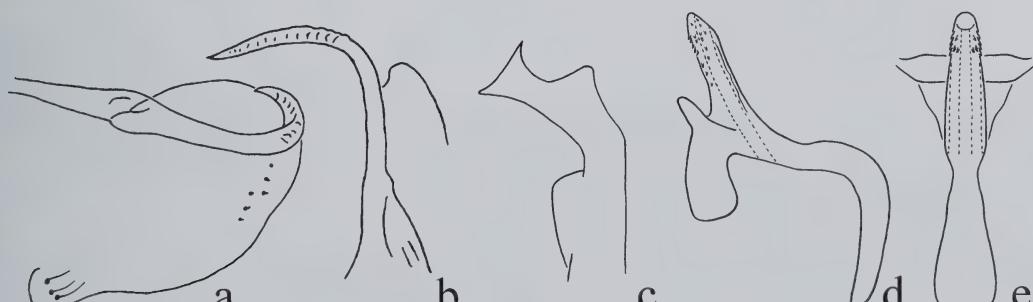
**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, strongly curved inward in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus, maculae small, often with red longitudinal stripe along vertex, pro-, and mesonotum, and spot near apex of clavus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 6 X 1929 (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus stellata*, *Q. macrocarpa*, *Q. falcata*, *Q. marilandica*, and other species of *Quercus*.

**Notes:** The holotype was collected on 6 X 1929, not on 6 XI 1929 as stated in the original publication.

Figure 96. *E. externa* (Beamer). c – holotype; a–b – from Hepner (unpublished).

97. *Eratoneura brooki* (Hepner, 1969) (Fig. 97, Plate 6k)

*Erythroneura brooki* Hepner, 1969a:126

*Eratoneura brooki* Dietrich & Dmitriev, 2006a:134

**Description:** Length 3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 9 II 1963 (Hepner), (INHS).

**Distribution:** South central USA.

**Host plants:** Unknown.

**Notes:** The holotype was collected in State College, not in Starkville as stated in the original publication.

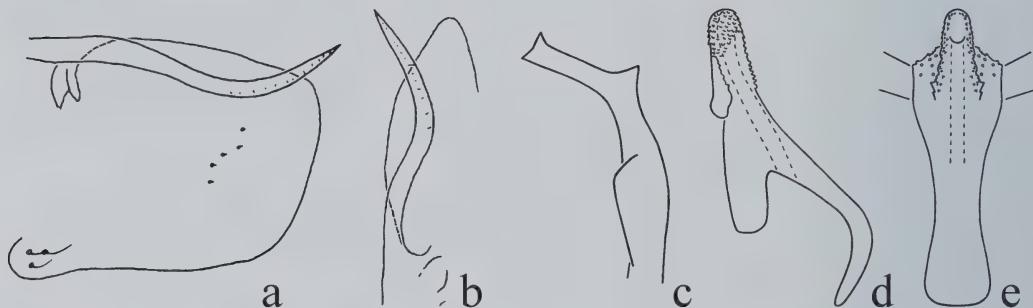


Figure 97. *E. brooki* (Hepner). c-d – holotype; e – paratype; a-b – from Hepner (unpublished).

98. *Eratoneura longa* (Knoll, 1955) (Fig. 98, Plate 6l)

*Erythroneura longa* Knoll, 1955a:245

*Erythroneura arneri* Hepner, 1969a:130, **syn.n.**  
(Plate 6l2)

*Eratoneura longa* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.7–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus, sometimes forewing with narrow reddish crossband.

**Type locality:** Holotype ♂, USA, Texas, Walker Co., Huntsville State Park, on *Ulmus* sp., 2 IV 1954 (Knoll), (OSU).

**Distribution:** South central and southeastern USA.

**Host plants:** *Quercus falcata*, *Q. pagoda*, *Q. stellata*, *Q. nigra*, and other species of *Quercus*.

**Notes:** *E. arneri* Hepner is a color variant with a crossband on the forewing. The holotype was collected on a non host plant species.



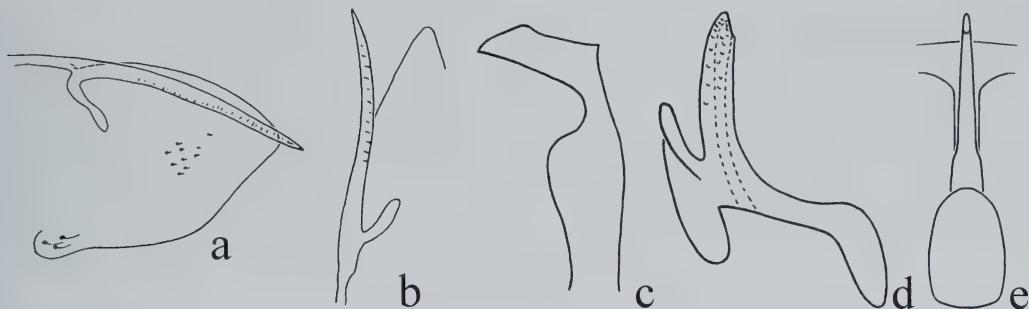
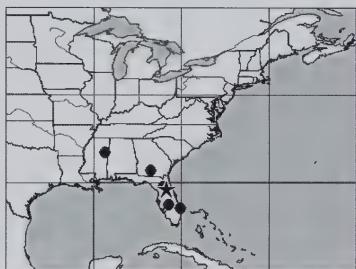


Figure 98. *E. longa* (Knoll). c–e – paratype; a–b – from Hepner (unpublished).

99. *Eratoneura sebringensis* (Hepner, 1966) (Fig. 99, Plate 6m)

*Erythroneura sebringensis* Hepner, 1966b:97

*Eratoneura sebringensis* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Florida, Marion Co., Juniper Springs, on *Quercus myrtifolia*, 9 VI 1963 (Hepner), (INHS).

**Distribution:** Southeastern USA.

**Host plants:** *Quercus myrtifolia*, *Q. chapmanii*, and probably other species of *Quercus*.

**Notes:** The holotype was collected on *Quercus myrtifolia*, not on *Q. chapmanii* as stated in the original publication.



Figure 99. *E. sebringensis* (Hepner). c–e – holotype; a–b – from Hepner (unpublished).

100. *Eratoneura parvipes* (Beamer, 1931) (Fig. 100, Plate 6n)*Erythroneura parvipes* Beamer, 1931b:242*Erythroneura (Eratoneura) parvipes* Young,  
1952b:87*Eratoneura parvipes* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal view, curved upward in lateral view, widest at base. Style apex truncated, without third point. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Carya ovata*, *C. tomentosa*, *C. glabra*.

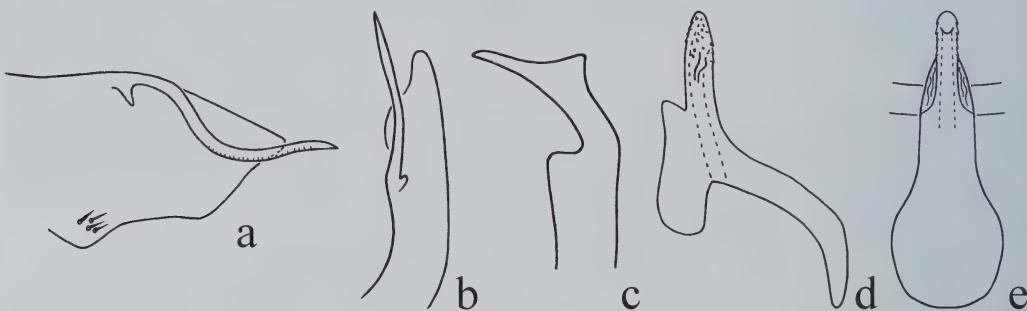


Figure 100. *E. parvipes* (Beamer). c – holotype.

101. *Eratoneura calamitosa* (Beamer, 1931) (Fig. 101, Plate 6o)*Erythroneura calamitosa* Beamer, 1931b:241*Erythroneura (Eratoneura) calamitosa* Young,  
1952b:86*Eratoneura calamitosa* Dietrich & Dmitriev,  
2006a:134

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Style apex truncated, without third point. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Juglans nigra*.

**Notes:** The holotype was collected on 26 XI 1927, not on 27 XI 1927 as stated in the original publication.

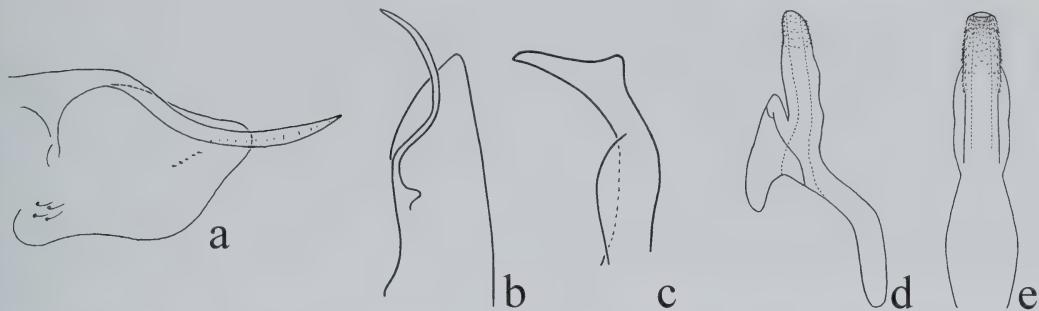


Figure 101. *E. calamitosa* (Beamer). c – holotype; a – from Hepner (unpublished).

102. *Eratoneura richardsi* (Ross, 1953) (Fig. 102, Plate 6p)

*Erythroneura richardsi* Ross, 1953b:189

*Erythroneura scobyensis* Hepner, 1966b:97, **syn.n.**

*Eratoneura richardsi* Dietrich & Dmitriev,

2006a:138



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, curved near base and near apex in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, without lateral lobes or processes, apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., Grantsburg, on *Quercus lyrata*, 17 VIII 1951 (Ross & Stannard), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus palustris*, *Q. lyrata*, *Q. pagoda*, and other species of *Quercus*.

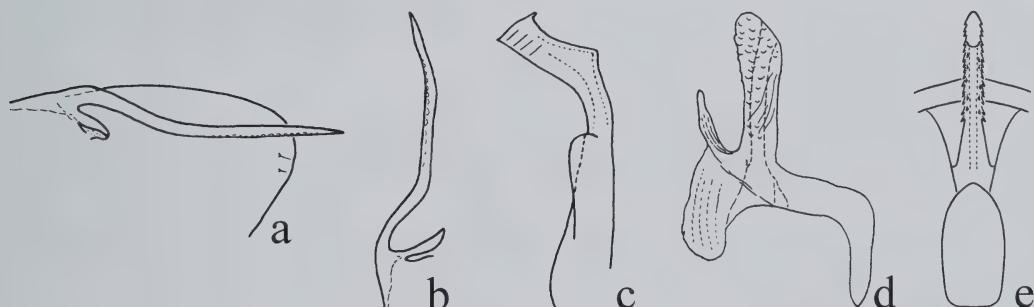


Figure 102. *E. richardsi* (Ross). e – paratype; a-d – from Ross (1953b).

103. *Eratoneura marilandicae* (Ross, 1957) (Fig. 103, Plate 6q)

*Erythroneura marilandicae* Ross, 1957a:183

*Eratoneura marilandicae* Dietrich & Dmitriev,

2006a:137



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe

angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Morgan Co., Meredosia, on *Quercus marilandica*, 8 IX 1954 (Ross & Stannard), (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus velutina*, *Q. marilandica*, *Q. imbricaria*, *Q. rubra*, *Q. shumardii*, and other species of *Quercus*.

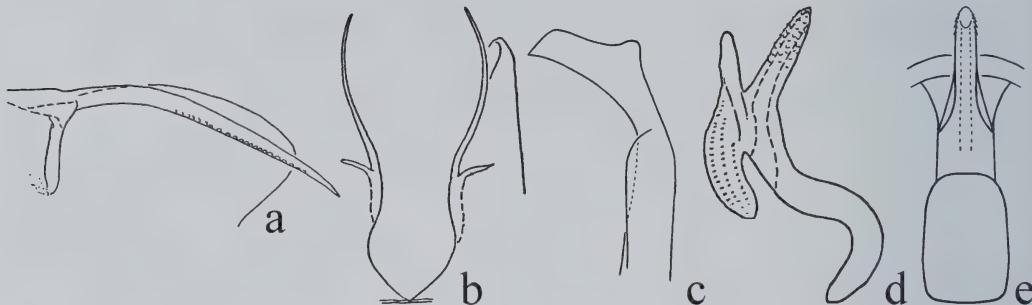


Figure 103. *E. marilandicae* (Ross). c, e – holotype; a, b, d – from Ross (1957a).

104. *Eratoneura opulenta* (Beamer, 1932) (Fig. 104, Plate 7a)

*Erythroneura opulenta* Beamer, 1932c:48

*Erythroneura (Eratoneura) opulenta* Young, 1952b:87

*Eratoneura opulenta* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus, with maculae brighter in basal half of forewings.

**Type locality:** Holotype ♂, USA, Florida, Pasco Co., Lacochee, on *Quercus* sp., 18 VIII 1930 (Beamer), (KSEM).

**Distribution:** Southeastern USA.

**Host plants:** *Quercus* sp.

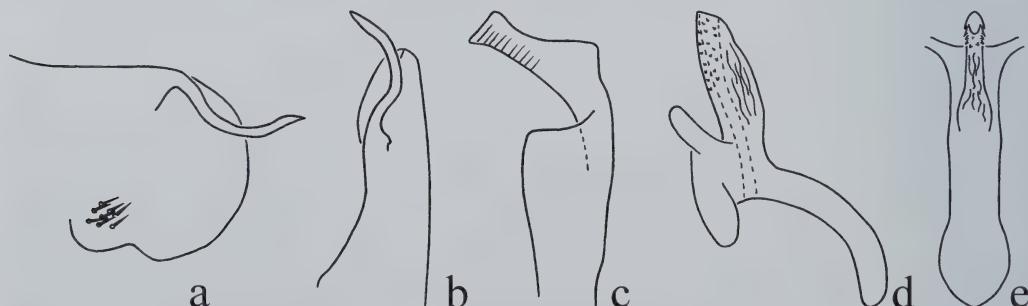


Figure 104. *E. opulenta* (Beamer). a, c, e – holotype.

105. *Eratoneura era* (McAtee, 1920) (Fig. 105, Plate 7b)

*Erythroneura maculata* var. *era* McAtee, 1920a:299  
*Erythroneura univittata* Robinson, 1924b:156, **syn.n.**  
*Erythroneura era* Beamer, 1932f:138  
*Erythroneura (Eratoneura) era* Young, 1952b:86  
*Erythroneura vinsoni* Hepner, 1969a:129, **syn.n.**  
*Erythroneura byersi* Hepner, 1972c:271, **syn.n.**  
*Eratoneura era* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point short toothlike or elongate, not longer than half distance between other two points; angle between basal and third points about 90° or less. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crosssection or compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Forewing usually with narrow red crossband in basal half.

**Type locality:** Holotype ♂, USA, Virginia, Arlington Co., Maywood, 20 II 1916 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Carya ovata*, *C. tomentosa*, *C. leiodermis*, and other species of *Carya*.

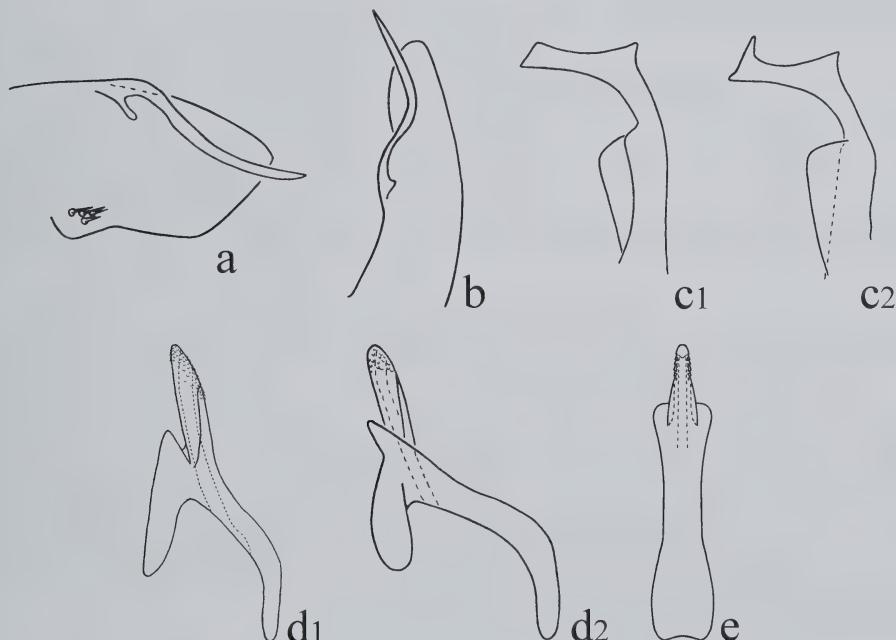


Figure 105. *E. era* (McAtee). c1–c2 – variation of shape of the style; d1–d2 – variation of shape of the aedeagus; c1, d1 – holotype; c2 – holotype of *E. univittata* Robinson.

**106. *Eratoneura fergusoni* (Hepner, 1969) (Fig. 106, Plate 7c)**

*Erythroneura fergusoni* Hepner, 1969a:130  
*Erythroneura johnsoni* Hepner, 1972a:432, *syn.n.*  
*Eratoneura fergusoni* Dietrich & Dmitriev,  
 2006a:135

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes along aedeagal shaft, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Clinton Co., Posey, on *Quercus bicolor*, 24 IX 1953 (Ross & Evers), (INHS).

**Distribution:** North of central USA.

**Host plants:** *Quercus macrocarpa*, *Q. bicolor*, *Q. prinus*.

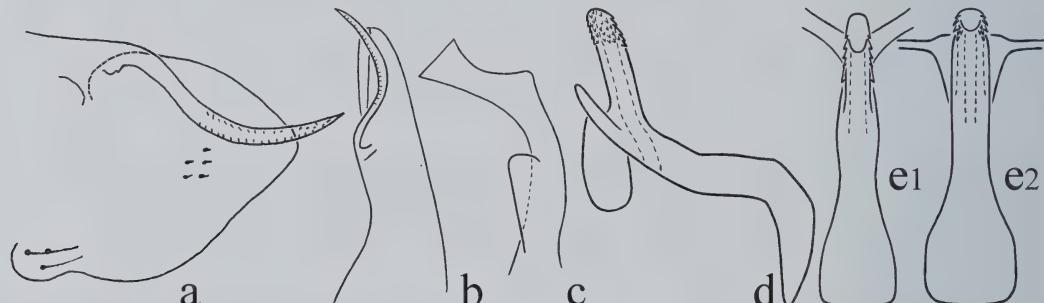


Figure 106. *E. fergusoni* (Hepner). e1–e2 – variation of shape of the aedeagus; c, e1 – paratype; b, d, e2 – holotype of *E. johnsoni* Hepner; a – from Hepner (unpublished).

**107. *Eratoneura ellisi* (Hepner, 1969) (Fig. 107, Plate 7d)**

*Erythroneura ellisi* Hepner, 1969a:129  
*Eratoneura ellisi* Dietrich & Dmitriev, 2006a:135

**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; pygofer appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Quercus phellos*, 19 IX 1964 (Hepner), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus phellos*, *Q. laurifolia*, *Q. pagoda*, *Q. lyrata*, *Q. nigra*, and other species of *Quercus*.





Figure 107. *E. ellisi* (Hepner). a – from Hepner (unpublished); b – from Hepner (1969a).

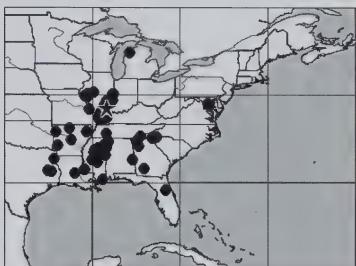
108. *Eratoneura acantha* (Ross & DeLong, 1950) (Fig. 108, Plate 7e)

*Erythroneura acantha* Ross & DeLong, 1950a:296

*Erythroneura (Eratoneura) acantha* Young, 1952b:120

*Erythroneura sethi* Hepner, 1966b:100, *syn.n.*

*Eratoneura acantha* Dietrich & Dmitriev, 2006a:133



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Wayne Co., Fairfield, on *Carya ovata*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, *Q. velutina*, *Q. marilandica*, *Q. phellos*, *Q. stellata*, *Q. rubra*, *Q. shumardii*, *Q. nigra*, *Q. alba*, *Q. imbricaria*, and other species of *Quercus*.

**Notes:** The holotype was collected on a non host plant species.

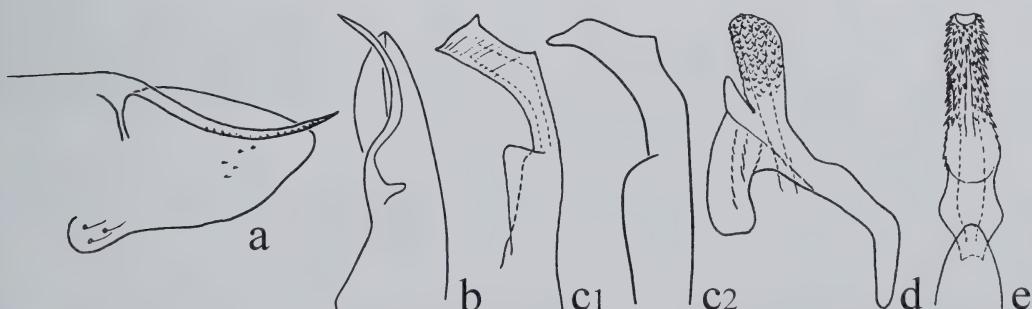


Figure 108. *E. acantha* (Ross & DeLong). b – holotype; c<sub>1</sub>–c<sub>2</sub> – variation of shape of the style; c<sub>2</sub> – paratype of *E. sethi* Hepner; a – from Hepner (unpublished); c<sub>1</sub>, d, e – from Ross & DeLong (1950a).

109. *Eratoneura interna* (Beamer, 1931) (Fig. 109, Plate 7f)  
*Erythroneura interna* Beamer, 1931d:285  
*Erythroneura (Eratoneura) interna* Young, 1952b:87  
*Eratoneura interna* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.7–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, slightly curved in dorsal view, strongly curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Cherokee Co., 1927, (Beamer), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus stellata*, *Q. myrtifolia*, *Q. chapmanii*.

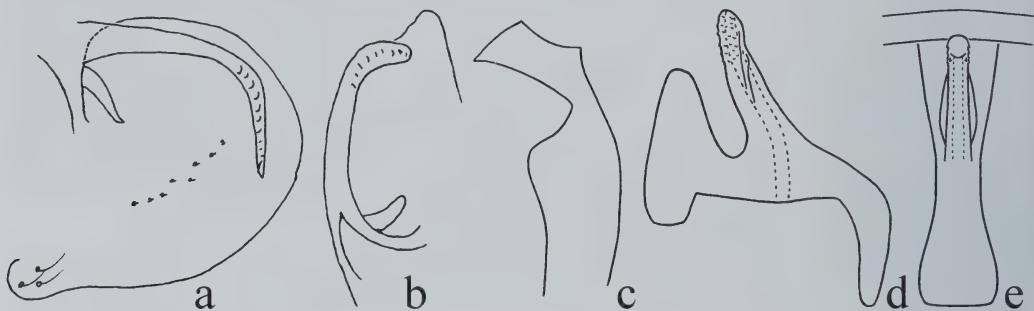


Figure 109. *E. interna* (Beamer). a–b – from Hepner (unpublished).

110. *Eratoneura robusta* (Knoll, 1955) (Fig. 110, Plate 7g)  
*Erythroneura robusta* Knoll, 1955a:245  
*Erythroneura sadleri* Hepner, 1969a:132, **syn.n.**  
*Eratoneura robusta* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.6–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex longer than third; third point short toothlike. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Texas, Walker Co., Huntsville State Park, on *Ulmus* sp., 2 IV 1954 (Knoll), (OSU).

**Distribution:** South central USA.

**Host plants:** *Ulmus* sp.



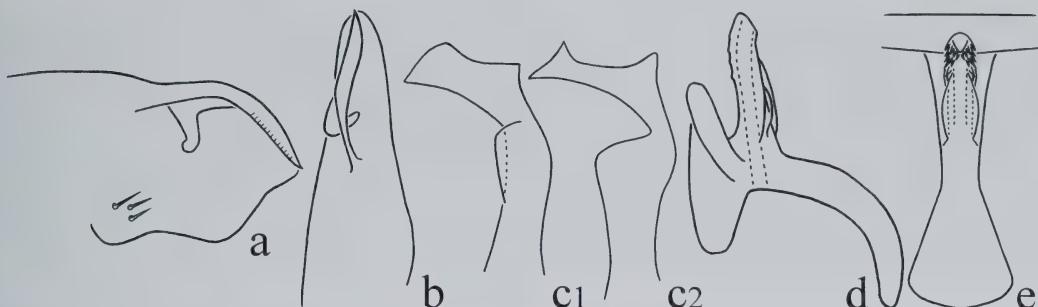


Figure 110. *E. robusta* (Knull). c<sub>1</sub>–c<sub>2</sub> – variation of shape of the style; a–c<sub>1</sub>, d, e – paratype; c<sub>2</sub> – paratype of *E. sadleri* Hepner.

111. *Eratoneura metopia* (Ross, 1957) (Fig. 111, Plate 7h)

*Erythroneura metopia* Ross, 1957a:185

*Eratoneura metopia* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., Shawneetown, on *Quercus imbricaria*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus imbricaria*, *Q. velutina*, and other species of *Quercus*.

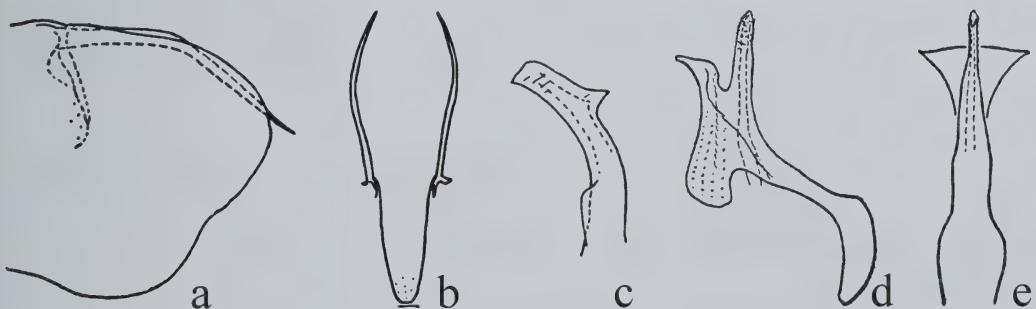


Figure 111. *E. metopia* (Ross). a, b, d, e – from Ross (1957a); c – from Ross (1958a).

112. *Eratoneura patris* (Ross & DeLong, 1953) (Fig. 112, Plate 7i)

*Erythroneura patris* Ross & DeLong, 1953a:89

*Erythroneura chehawensis* Hepner, 1966b:100,

**syn.n.**

*Eratoneura patris* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small,



narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally; without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Jackson Co., Grand Tower, on *Quercus stellata*, 7 X 1947 (Ross), (INHS).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Quercus pagoda*, *Q. stellata*, *Q. nigra*, *Q. falcata*, *Q. palustris*, and other species of *Quercus*.

**Notes:** The holotype of *E. chehawensis* Hepner is an aberrant specimen.

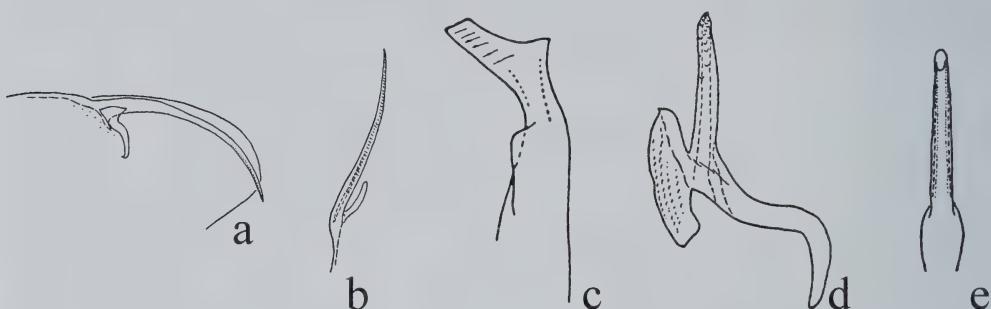


Figure 112. *E. patris* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

### 113. *Eratoneura econa* (Ross, 1957) (Fig. 113, Plate 7j)

*Erythroneura econa* Ross, 1957a:184

*Eratoneura econa* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, depressed in basal half and compressed in distal half, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Cumberland Co., Neoga, on *Quercus imbricaria*, 2 IX 1955 (Ross & Sanderson), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus imbricaria*.

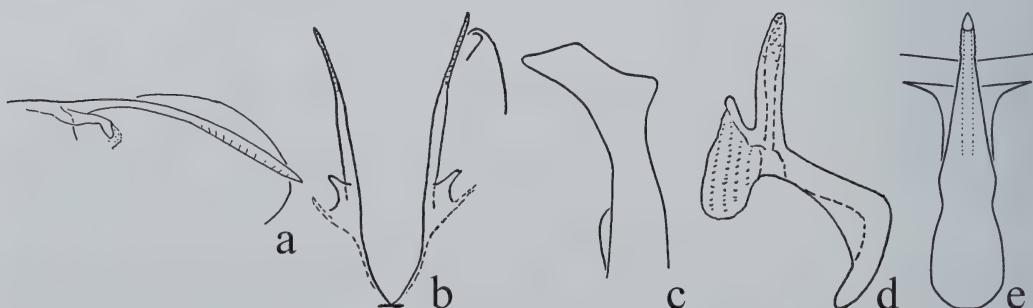


Figure 113. *E. econa* (Ross). c, e – holotype; a, b, d – from Ross (1957a).

114. *Eratoneura alicia* (Ross, 1957) (Fig. 114, Plate 7k)*Erythroneura alicia* Ross, 1957a:185*Eratoneura alicia* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex longer than third; third point short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Mesonotum red; forewing with three red narrow crossbands.

**Type locality:** Holotype ♂, USA, Illinois, Cumberland Co., Neoga, on *Quercus imbricaria*, 2 IX 1955 (Ross & Stannard), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus imbricaria*.

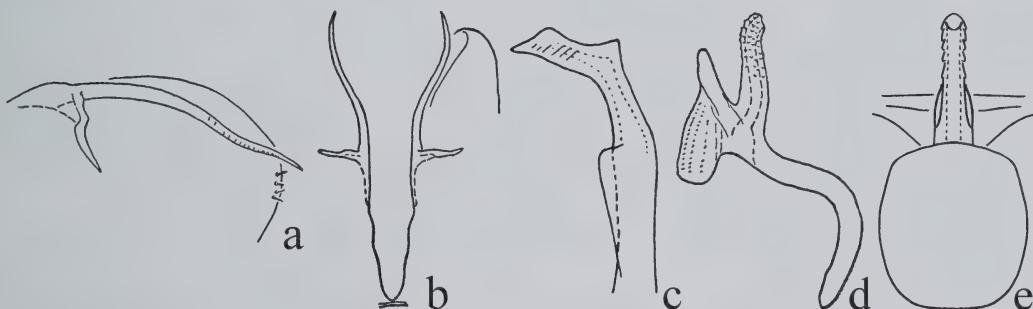


Figure 114. *E. alicia* (Ross). e – holotype; a, b, d – from Ross (1957a); c – from Ross (1958a).

115. *Eratoneura zioni* (Beamer, 1932) (Fig. 115, Plate 7l)*Erythroneura zioni* Beamer, 1932d:71*Erythroneura (Eratoneura) zioni* Young, 1952b:88*Eratoneura zioni* Dietrich & Dmitriev, 2006a:139

**Description:** Length 3–3.2 mm. Forewing outer apical cell about 2X as long as wide. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, denticulate distally, with narrow lateral lobes at base, without processes; apex blunt in ventral view. Forewings with oblique vittae usually forming continuous zigzag pattern, without crossbands.

**Type locality:** Holotype ♂, USA, Utah, Washington Co., Zion National Park, on *Quercus* sp., 13 VIII 1929 (Beamer), (KSEM).

**Distribution:** Utah.

**Host plants:** *Quercus* sp.

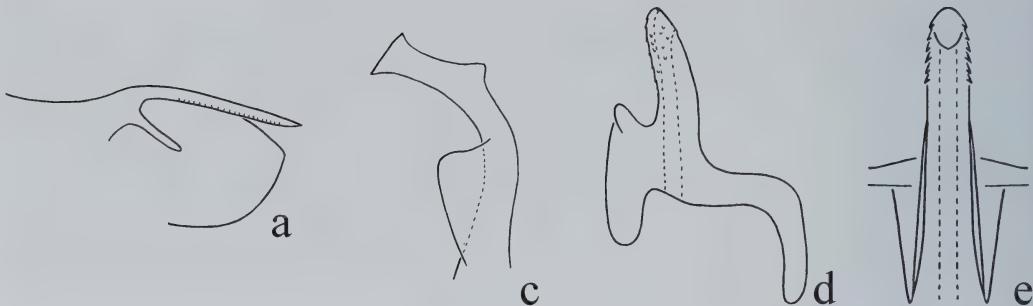


Figure 115. *E. zioni* (Beamer). a-d – holotype; e – paratype.

116. *Eratoneura greeni* (Hepner, 1969) (Fig. 116, Plate 7m)

*Erythroneura greeni* Hepner, 1969a:127

*Eratoneura greeni* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.6–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Florida, Highlands Co., Sebring, on *Quercus* sp., 28 XII 1960 (Hepner), (INHS).

**Distribution:** The species is known only from the type locality in Florida.

**Host plants:** *Quercus* sp.

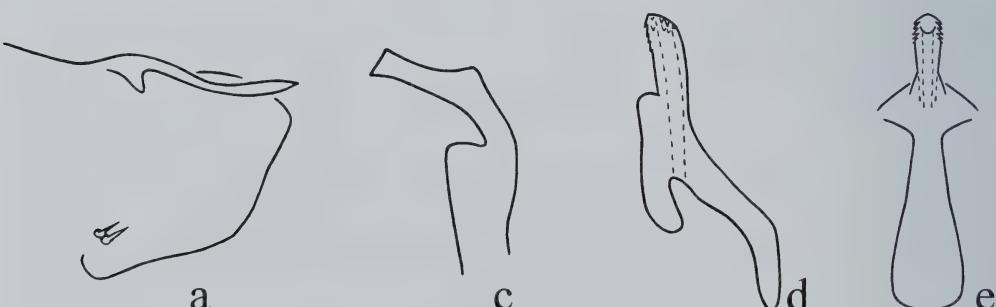


Figure 116. *E. greeni* (Hepner). a, d, e – paratype; c – holotype.

117. *Eratoneura lenta* (Beamer, 1932) (Fig. 117, Plate 7n)

*Erythroneura lenta* Beamer, 1932e:82

*Erythroneura (Eratoneura) lenta* Young, 1952b:87

*Eratoneura lenta* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer



apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with large lateral lobes, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus phellos*, *Q. laurifolia*, *Q. rubra*, *Q. imbricaria*, *Q. nigra*, *Q. pagoda*, and other species of *Quercus*.

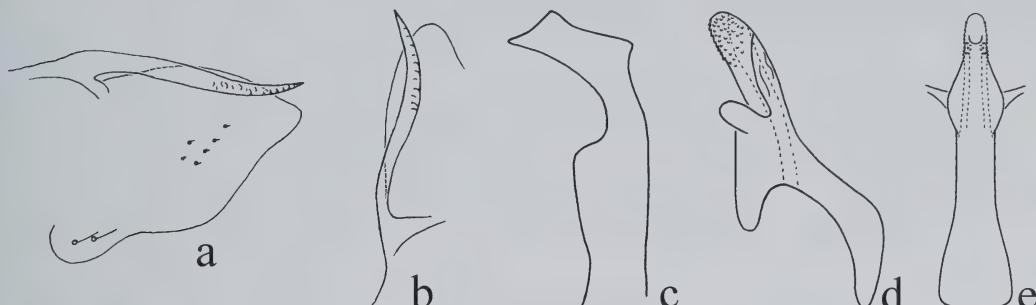


Figure 117. *E. lenta* (Beamer). c – holotype; a–b – from Hepner (unpublished).

#### 118. *Eratoneura gilesi* (Hepner, 1966) (Fig. 118, Plate 7o)

*Erythroneura gilesi* Hepner, 1966b:97

*Erythroneura colvardi* Hepner, 1966b:95, syn.n.

*Erythroneura wisei* Hepner, 1966b:97, syn.n.

*Erythroneura hamneri* Hepner, 1969a:127, syn.n.

*Erythroneura maxwelli* Hepner, 1972b:218, syn.n.

*Eratoneura gilesi* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to or beyond pygofer apex, distinctly sinuate in dorsal view, straight or curved upward in lateral view, widest at base. Second and third points of style apex very short, toothlike. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Quercus pagoda*, 8 VII 1964 (Hepner), (INHS).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, and other species of *Quercus*.

**Notes:** The holotype was collected in the State College, not in Noxubee Co. as stated in the original publication. The holotypes of *E. colvardi* Hepner and *E. maxwelli* Hepner are variants with the pygofer appendage short.

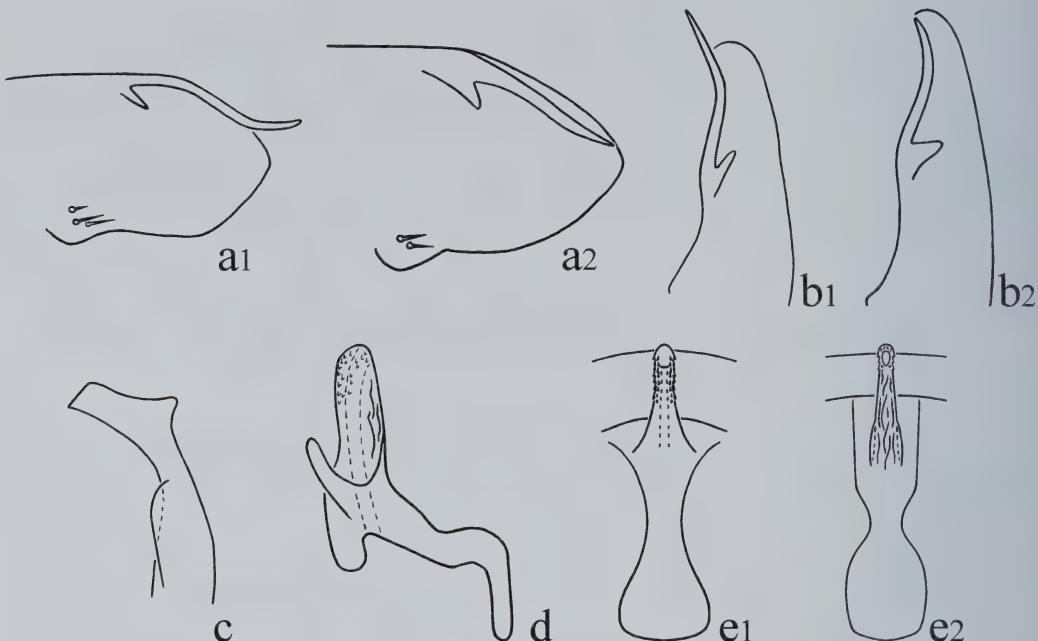


Figure 118. *E. gilesi* (Hepner). a1–b2 – variation of shape of the pygofer appendage; e1–e2 – variation of shape of the aedeagus; a1, b2, c, d, e2 – holotype; a2, b1 – var. *colvardi* Hepner.

119. *Eratoneura maga* (Knoll, 1951) (Fig. 119, Plate 7p)

*Erythroneura maga* Knoll, 1951b:170

*Erythroneura (Eratoneura) maga* Young, 1952b:120

*Eratoneura maga* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point with wide base, elongate, longer than distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Scioto Co., 9 VI 1943 (Knoll), (OSU).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus pagoda*, *Q. lyrata*, *Q. falcata*, *Q. stellata*, and other species of *Quercus*.

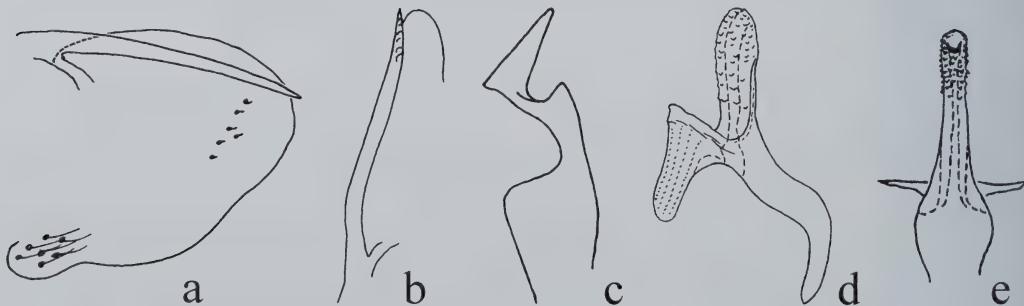


Figure 119. *E. maga* (Knoll). a–b – from Hepner (unpublished); c–e – from Ross (1958a).

120. *Eratoneura igella* (Ross & DeLong, 1950) (Fig. 120, Plate 7q)

*Erythroneura igella* Ross & DeLong, 1950a:295

*Erythroneura (Eratoneura) igella* Young, 1952b:120

*Erythroneura albiquera* Hepner, 1967b:62, *syn.n.*

*Eratoneura igella* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Pope Co., Bell Smith Springs, on *Quercus* sp., 16 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus stellata*, *Q. falcata*, *Q. pagoda*, and other species of *Quercus*.

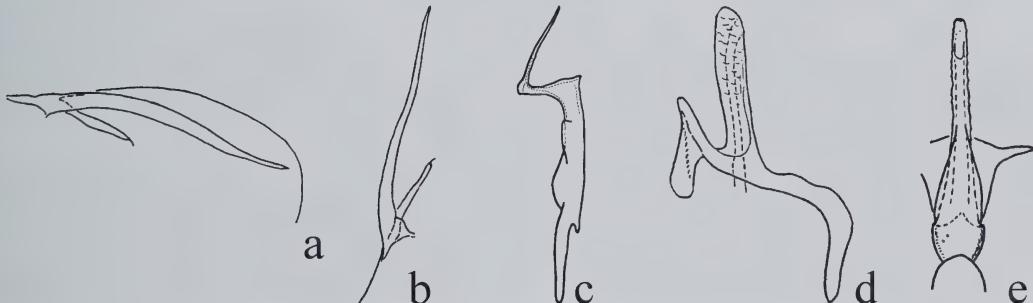
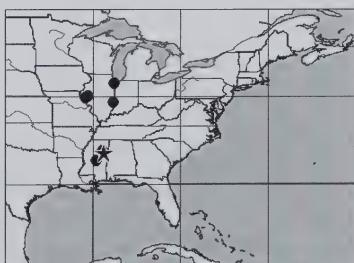


Figure 120. *E. igella* (Ross & DeLong). a–e – from Ross & DeLong (1950a).

121. *Eratoneura stannardi* (Hepner, 1967) (Fig. 121, Plate 7r)

*Erythroneura stannardi* Hepner, 1967b:66

*Eratoneura stannardi* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.8–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with dorsal carina, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Quercus palustris*, 6 IX 1962 (Hepner), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus coccinea*, *Q. palustris*, *Q. rubra*, and other species of *Quercus*.

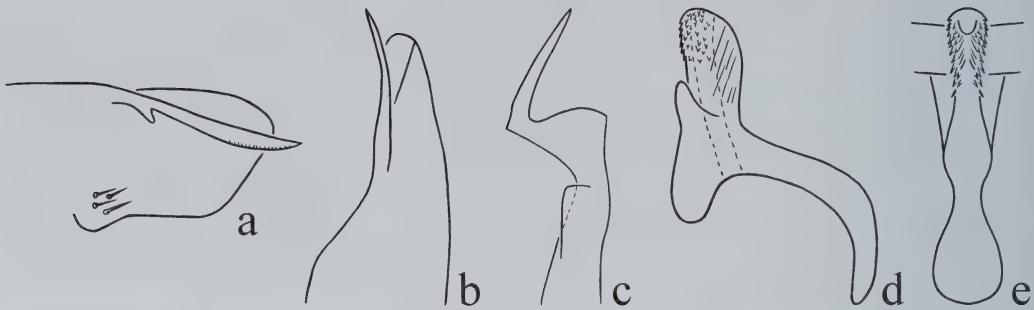


Figure 121. *E. stannardi* (Hepner). a–e – holotype.

**122. *Eratoneura trautmanae* (Knoll, 1945) (Fig. 122, Plate 7s)**

*Erythroneura trautmanae* Knoll, 1945b:104

*Erythroneura (Eratoneura) trautmanae* Young,  
1952b:88

*Eratoneura trautmanae* Dietrich & Dmitriev,  
2006a:139



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, apex curved upward in lateral view, widest at base, denticulate distally. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with dorsal carina with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Michigan, Crawford Co., Hartwick Pines State Park, 17 VII, (Auten), (OSU).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Acer spicatum*, *A. pensylvanicum*, and other species of *Acer*.

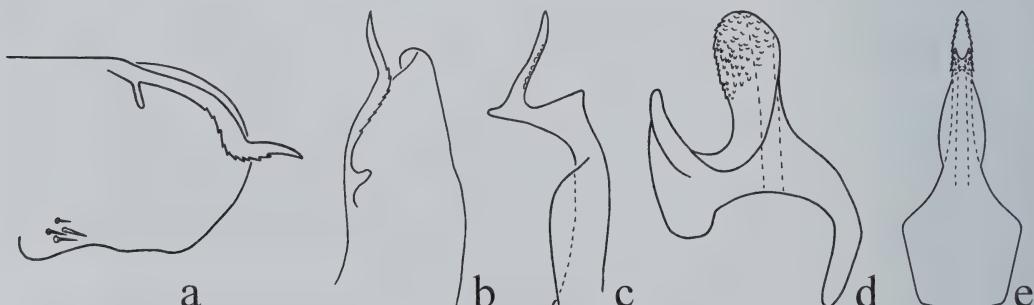
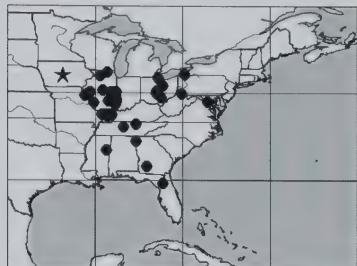


Figure 122. *E. trautmanae* (Knoll). c – holotype.

123. *Eratoneura knighti* (Beamer, 1932) (Fig. 123, Plate 7t)*Erythroneura knighti* Beamer, 1932e:87*Erythroneura (Eratoneura) knighti* Young, 1952b:87*Eratoneura knighti* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.7–2.9 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; aedeagal shaft straight and broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Iowa, Story Co., Ames, 18 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Acer saccharum*, and other species of *Acer*.

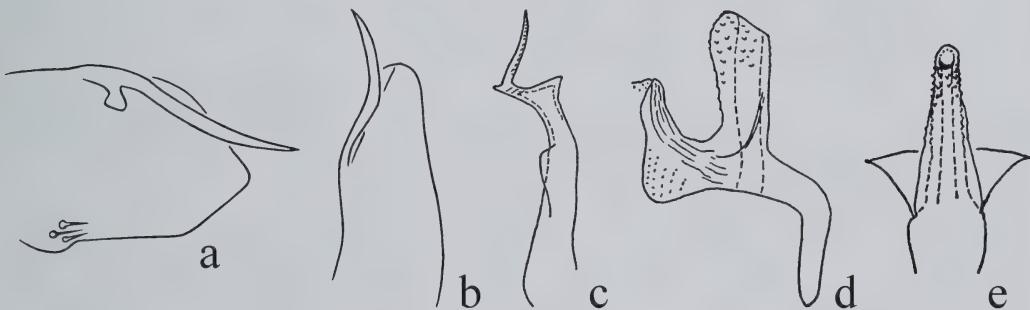
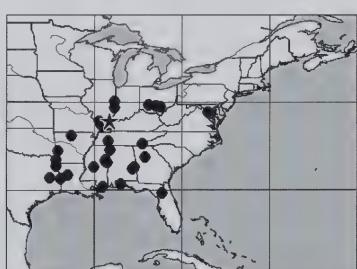


Figure 123. *E. knighti* (Beamer). c–e – from Ross (1958a).

124. *Eratoneura triangulata* (Beamer, 1931) (Fig. 124, Plate 7u)*Erythroneura triangulata* Beamer, 1931b:240*Erythroneura (Eratoneura) triangulata* Young, 1952b:88*Eratoneura triangulata* Dietrich & Dmitriev, 2006a:139

**Description:** Length 2.5–2.7 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, compressed, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point with broad base, elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, round in ventral view, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., 31 III 1929 (Oman), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Carpinus caroliniana*.

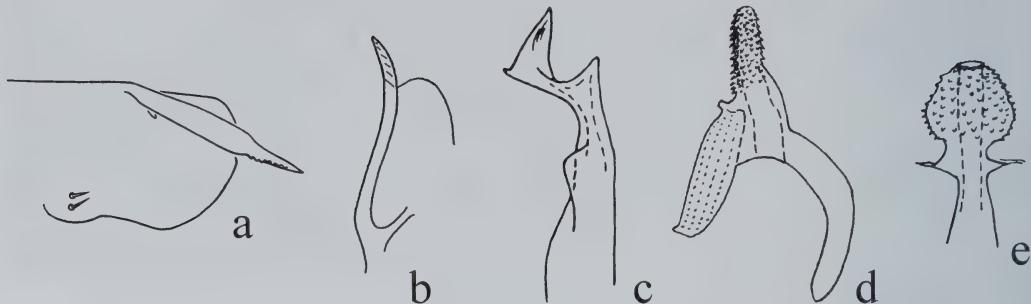


Figure 124. *E. triangulata* (Beamer). b – from Hepner (unpublished); c–e – from Ross (1958a).

125. *Eratoneura corylorubra* (Knoll, 1945) (Fig. 125, Plate 7v)

*Erythroneura corylorubra* Knoll, 1945b:108

*Erythroneura (Eratoneura) corylorubra* Young,  
1952b:86

*Eratoneura corylorubra* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.4–2.6 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in crosssection, denticulate distally, with broadened depressed apex sharply bent dorsad, without lateral lobes or processes. Forewing with oblique broad vitta forming zigzag pattern.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 17 IV 1938 (Knoll), (OSU).

**Distribution:** North central USA.

**Host plants:** *Corylus americana*.

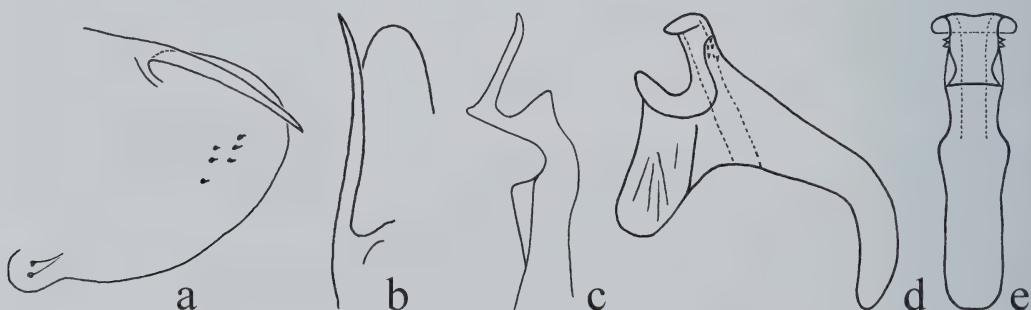


Figure 125. *E. corylorubra* (Knoll). c – paratype; a–b – from Hepner (unpublished).

126. *Eratoneura fulleri* (Hepner, 1967) (Fig. 126, Plates 1g, 8a)

*Erythroneura fulleri* Hepner, 1967a:19

*Erythroneura patei* Hepner, 1967a:19, **syn.n.** (Plate 8a<sub>2</sub>)

*Erythroneura weemsi* Hepner, 1967a:19, **syn.n.**

*Eratoneura fulleri* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.9–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; aedeagal shaft curved ventrad, broad in lateral view, depressed, triangular in ventral view, denticulate distally, without lateral lobes or processes; apex truncate in ventral view. Forewing usually with broad red crossband in basal half not reaching costal margin.

**Type locality:** Holotype ♂, USA, Illinois, Hardin Co., Elizabethtown, on *Acer saccharum*, 2 IX 1963 (Hepner), (INHS).

**Distribution:** Central USA.

**Host plants:** *Aesculus glabra*.

**Notes:** The holotype was collected on a non host plant species.

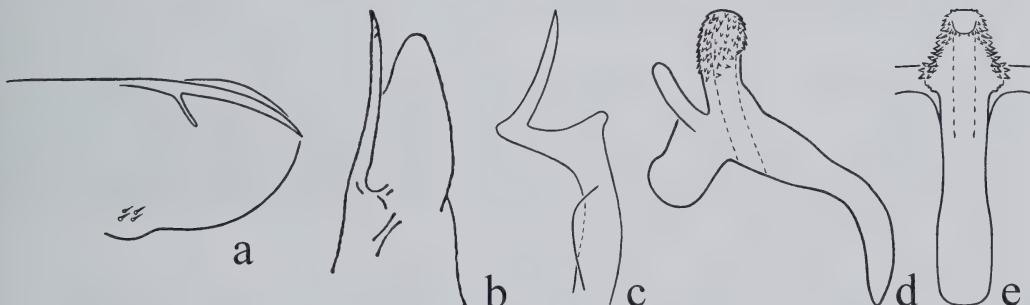


Figure 126. *E. fulleri* (Hepner). a, c–e – holotype; b – from Hepner (1967a).

127. *Eratoneura rubranotata* (Beamer, 1927) (Fig. 127, Plate 8b)

*Erythroneura rubranotata* Beamer, 1927a:30

*Erythroneura (Eratoneura) rubranotata* Young, 1952b:87

*Eratoneura rubranotata* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view,

depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Pronotum with bright red Y-shaped medial vitta; forewings without oblique vittae, with 2 narrow red crossbands not reaching lateral margins.

**Type locality:** Holotype ♂, USA, Kansas, Atchison Co., 16 VII 1924 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Aesculus glabra*.

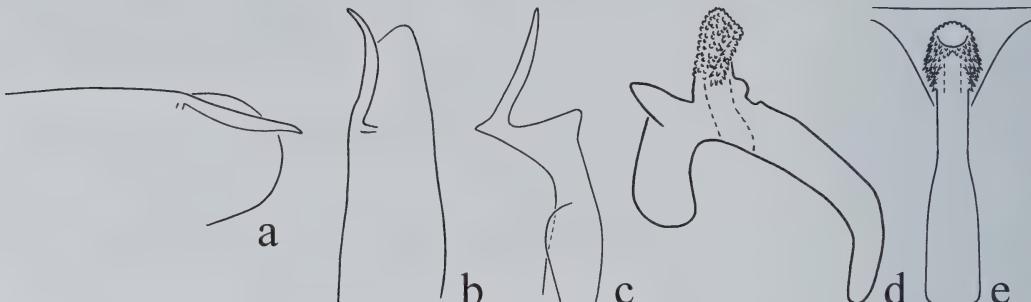


Figure 127. *E. rubranotata* (Beamer).

128. *Eratoneura citrosa* (Ross, 1956) (Fig. 128, Plate 8c)

*Erythroneura citrosa* Ross, 1956a:86

*Eratoneura citrosa* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.6–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, slightly compressed basally, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Marion Co., Salem, on *Corylus americana*, 22 IX 1948 (Ross & Stannard), (INHS).

**Distribution:** Central USA.

**Host plants:** *Corylus americana*.



Figure 128. *E. citrosa* (Ross). b–c – holotype; a, d, e – from Ross (1956a).

129. *Eratoneura clara* (Beamer, 1932) (Fig. 129, Plate 8d)

*Erythroneura clara* Beamer, 1932g:161

*Erythroneura (Eratoneura) clara* Young, 1952b:86

*Eratoneura clara* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Cercis canadensis*.

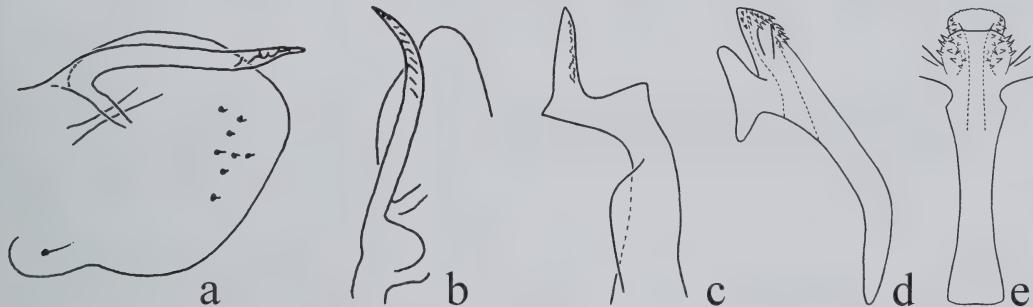


Figure 129. *E. clara* (Beamer). c – holotype; a–b – from Hepner (unpublished).

130. *Eratoneura nimia* (Knoll, 1954) (Fig. 130, Plate 8e)

*Erythroneura nimia* Knoll, 1954b:20, syn.n.

*Erythroneura spatulata* Ross, 1956a:88 (prim.hom. of *Erythroneura spatulata* Beamer, 1930), syn.n.

*Erythroneura edeni* Hepner, 1967a:20, syn.n.

*Erythroneura faguseae* Hepner, 1967a:22, syn.n.

*Erythroneura ostryae* Hepner, 1967a:23, syn.n.

*Eratoneura nimia* Dietrich & Dmitriev, 2006a:137

*Erythroneura hepneri* Dmitriev & Dietrich, 2006a:38 n.nov., syn.n.



**Description:** Length 2.4–2.6 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex truncate in ventral view, often slightly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 27 IX 1950 (Knoll), (OSU).

**Distribution:** Central and southeastern USA.

**Host plants:** *Fagus grandifolia*, *Ostrya virginiana*.

**Notes:** The holotype is a large specimen, 3.2 mm (2.8 mm in the original publication), but the genitalia exactly match those of *E. spatulata* Ross. Probably the wrong body was associated with the holotype genitalia in the OSU collection.



Figure 130. *E. nimia* (Knoll). c – holotype; d<sub>1</sub>–d<sub>2</sub> – variation of shape of the aedeagus; a, d<sub>2</sub>, e – from Ross (1956a).

131. *Eratoneura flexibilis* (Knoll, 1949) (Fig. 131, Plate 8f)

*Erythroneura flexibilis* Knoll, 1949a:122

*Erythroneura (Eratoneura) flexibilis* Young,  
1952b:87

*Eratoneura flexibilis* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Delaware Co., 18 III 1945 (Knoll), (OSU).

**Distribution:** North of central USA and northeastern USA.

**Host plants:** *Acer saccharum*.

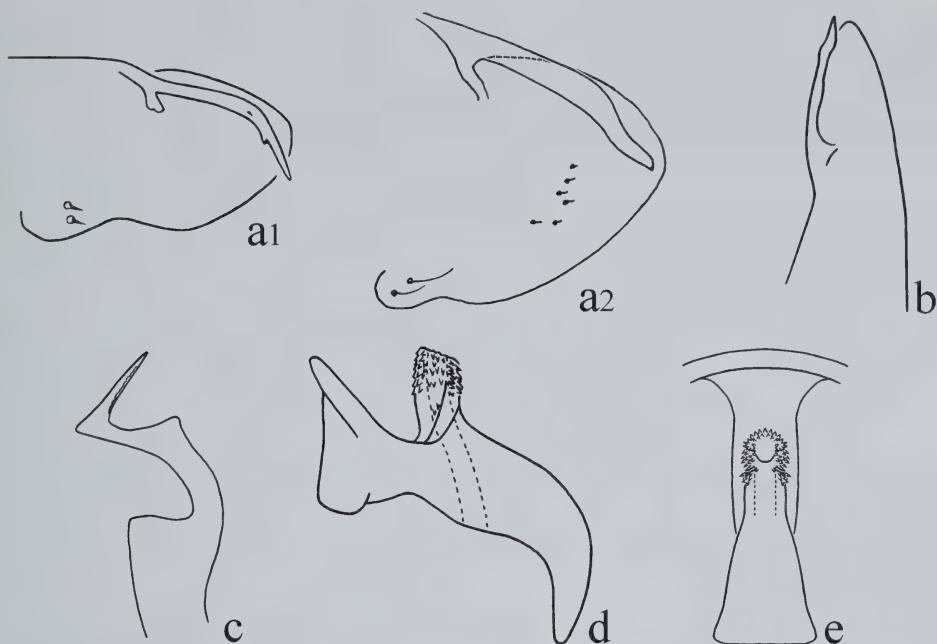


Figure 131. *E. flexibilis* (Knoll). a1–a2 – variation of shape of the pygofer appendage; c – holotype; a2 – from Hepner (unpublished).

132. *Eratoneura certa* (Beamer, 1932) (Fig. 132, Plate 8g)

*Erythroneura certa* Beamer, 1932g:159

*Erythroneura (Eratoneura) certa* Young, 1952b:86

*Eratoneura certa* Dietrich & Dmitriev, 2006a:134

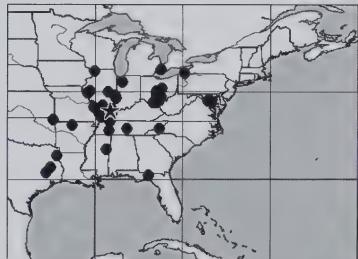
**Description:** Length 2.5–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point more than 2 times longer than distance between other 2 points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype, ♂, USA, Illinois, Gallatin Co., 31 III 1929 (Oman), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Sassafras albidum*.

**Notes:** The holotype was collected on 31 III 1929, not on 30 III 1929 as stated in the original publication.



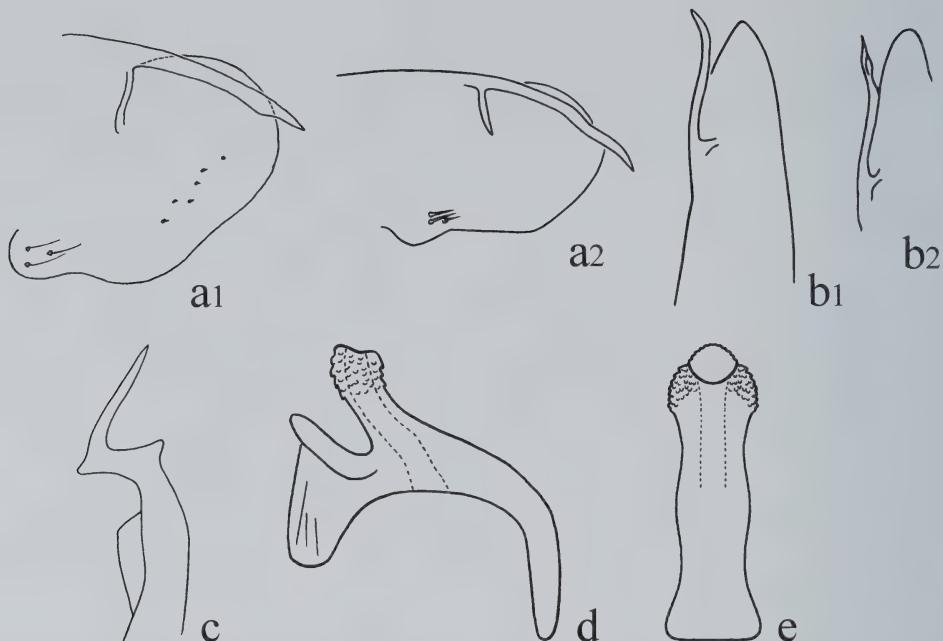


Figure 132. *E. certa* (Beamer). a<sub>1</sub>–b<sub>2</sub> – variation of shape of the pygofer appendage; c – holotype; b<sub>2</sub> – from Hepner (unpublished).

133. *Eratoneura direpta* (Knoll, 1949) (Fig. 133, Plate 8h)

*Erythroneura direpta* Knoll, 1949a:125

*Erythroneura (Eratoneura) direpta* Young, 1952b:86

*Erythroneura callisoga* Ross, 1956a:86, *syn.n.*

*Erythroneura brendae* Hepner, 1967a:21, *syn.n.*

*Erythroneura hendersoni* Hepner, 1967a:21, *syn.n.*

*Eratoneura direpta* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.4–2.6 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 16 VII 1945 (Knoll), (OSU).

**Distribution:** Central and northeastern USA.

**Host plants:** *Carpinus caroliniana*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape of the pygofer appendage and aedeagus.

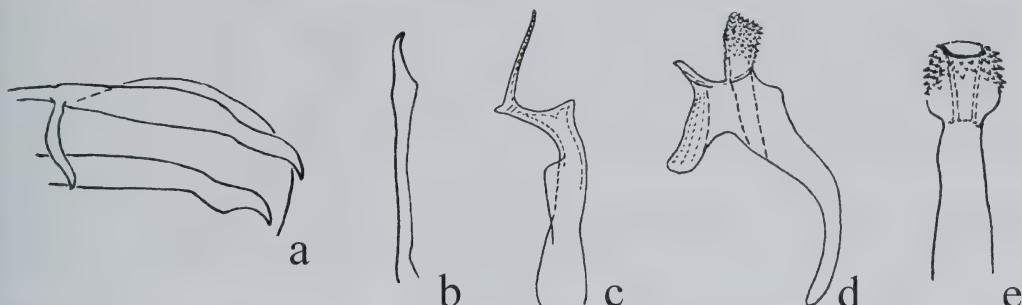


Figure 133. *E. direpta* (Knoll). a – variation of shape of the pygofer appendage; a–b – from Ross (1956a); c–e – from Ross (1958a).

134. *Eratoneura tersa* (Knoll, 1951) (Fig. 134, Plate 8i)

*Erythroneura tersa* Knoll, 1951b:172

*Erythroneura (Eratoneura) tersa* Young, 1952b:120

*Eratoneura tersa* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 12 IV 1945 (Knoll), (OSU).

**Distribution:** Central and eastern USA.

**Host plants:** *Aesculus* sp., *Carpinus caroliniana*, *Ulmus alata*, *Ostrya virginiana*.

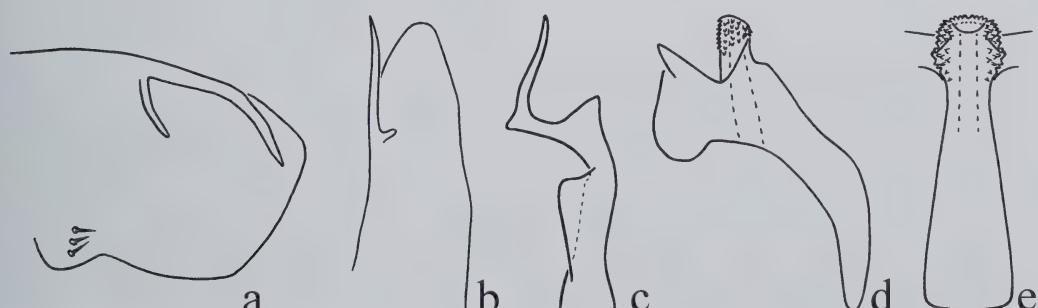


Figure 134. *E. tersa* (Knoll). c – holotype.

**135. *Eratoneura luculenta* (Knoll, 1949) (Fig. 135, Plate 8j)**

*Erythroneura luculenta* Knoll, 1949a:124

*Erythroneura (Eratoneura) luculenta* Young,  
1952b:87

*Eratoneura luculenta* Dietrich & Dmitriev,  
2006a:136



**Description:** Length 3.2–3.4 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Arizona, Coconino Co., Oak Creek Canyon, 1 VIII 1938 (Knoll), (OSU).

**Distribution:** Arizona.

**Host plants:** Unknown.

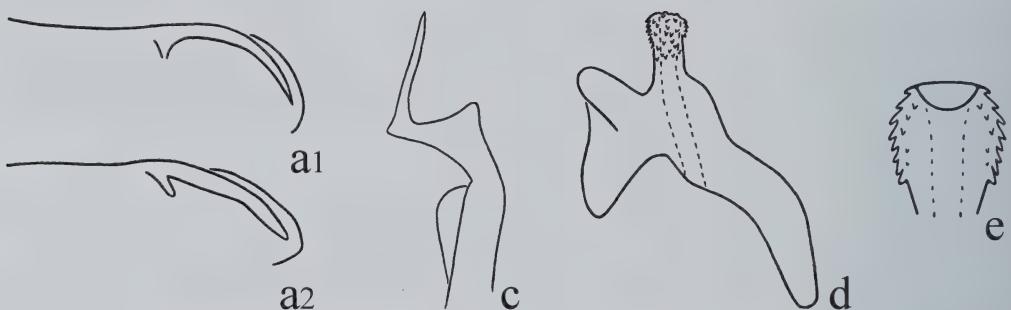


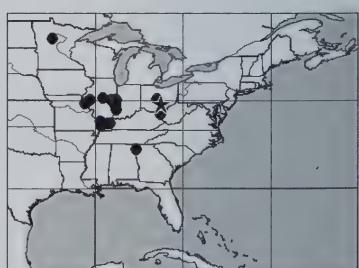
Figure 135. *E. luculenta* (Knoll). a1, c–e – holotype; a2 – paratype.

**136. *Eratoneura fausta* (Knoll, 1951) (Fig. 136, Plate 8k)**

*Erythroneura fausta* Knoll, 1951b:172

*Erythroneura (Eratoneura) fausta* Young, 1952b:120

*Eratoneura fausta* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.8–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points. Angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, broad in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 20 VI 1945 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** *Acer saccharum*.

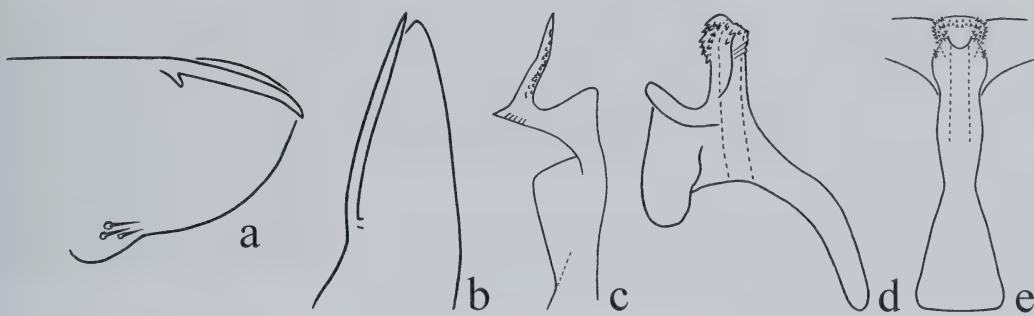


Figure 136. *E. fausta* (Knoll). c – holotype.

**137. *Eratoneura bella* (McAtee, 1920) (Fig. 137, Plate 8I)**

*Erythroneura maculata* var. *bella* McAtee,  
1920a:300

*Erythroneura bella* Beamer, 1932f:136

*Erythroneura (Eratoneura) bella* Young, 1952b:86

*Eratoneura bella* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward distally in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view. Forewings with broken oblique vittae, with crossband, not reaching lateral margins and bases of wings.

**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Plummers Island, 21 XII 1913 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Platanus occidentalis*.

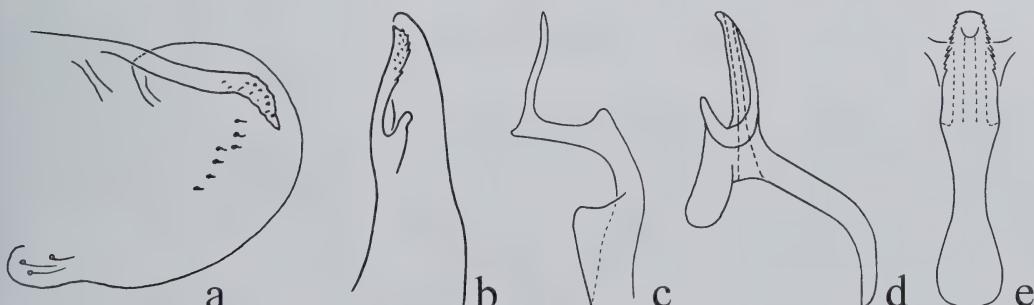


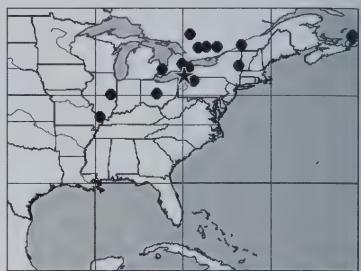
Figure 137. *E. bella* (McAtee). c – holotype; a – from Hepner (unpublished).

**138. *Eratoneura coxi* (Ross & DeLong, 1950) (Fig. 138, Plate 8n)**

*Erythroneura coxi* Ross & DeLong, 1950a:295

*Erythroneura (Eratoneura) coxi* Young, 1952b:120

*Eratoneura coxi* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.5–2.8 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Pennsylvania, Erie Co., North East, on *Rubus* sp., 14 X 1949 (Cox), (INHS).

**Distribution:** North central and northeastern USA, southeastern Canada.

**Host plants:** *Rubus* sp.

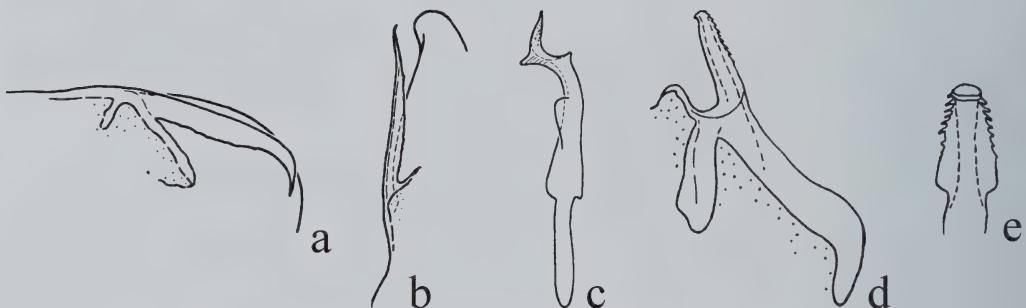


Figure 138. *E. coxi* (Ross & DeLong). a–e – from Ross & DeLong (1950a).

**139. *Eratoneura torella* (Robinson, 1924) (Fig. 139, Plate 8m)**

*Erythroneura torella* Robinson, 1924b:156

*Erythroneura (Eratoneura) torella* Young, 1952b:88

*Eratoneura torella* Dietrich & Dmitriev, 2006a:139



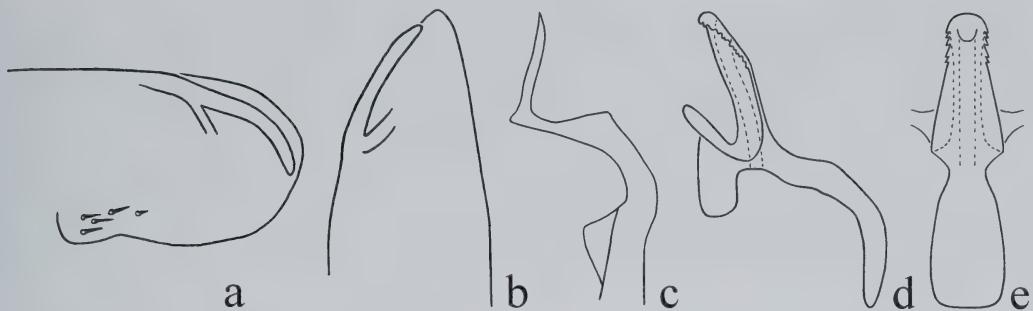
**Description:** Length 2.9–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♀, USA, Kansas, Cherokee Co., 30 XII 1923 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Platanus occidentalis*.

**Notes:** The holotype is female, not male as stated in the original publication.

Figure 139. *E. torella* (Robinson).

140. *Eratoneura tumida* (Knoll, 1954) (Fig. 140, Plate 8o)

*Erythroneura tumida* Knoll, 1954b:173

*Eratoneura tumida* Dietrich & Dmitriev, 2006a:139

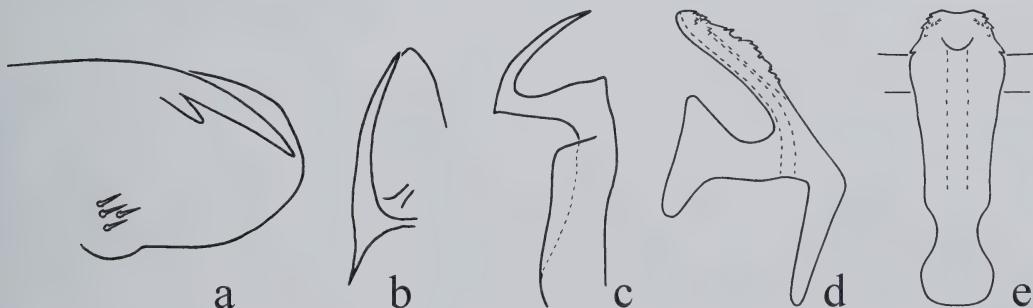
**Description:** Length 2.9–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded. Pygofer appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 45°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex broadened in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 4 V 1950 (Knoll), (OSU).

**Distribution:** North of central and northeastern USA, southeastern Canada.

**Host plants:** ?*Quercus alba*.

Figure 140. *E. tumida* (Knoll). c – holotype; a – from Hepner (unpublished).

141. *Eratoneura glicilla* (Ross, 1956) (Fig. 141, Plate 8p)

*Erythroneura glicilla* Ross, 1956a:86

*Erythroneura loriae* Hepner, 1967b:70, syn.n.

*Eratoneura glicilla* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in



dorsal view, straight in lateral view, widest at base. Second point of style apex very short, tooth-like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crossection, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view, slightly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Union Co., Jonesboro, on *Carpinus caroliniana*, 5 VI 1951 (Ross & Richards), (INHS).

**Distribution:** South central USA.

**Host plants:** Unknown, the holotype was collected on *Carpinus caroliniana*.

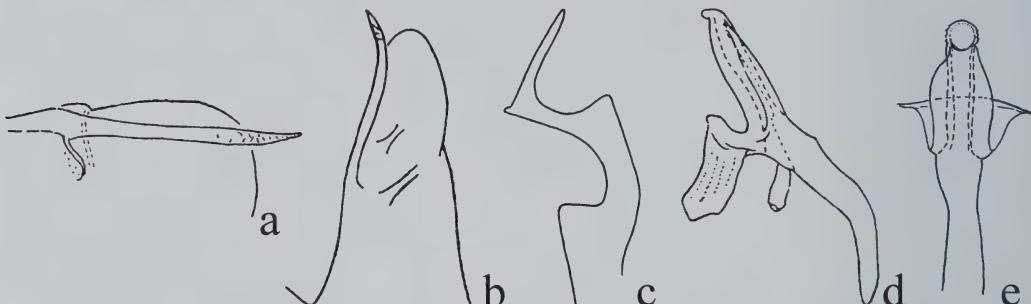


Figure 141. *E. glicilla* (Ross). c – holotype; a, d, e – from Ross (1956a); b – from Hepner (1967b).

142. *Eratoneura morgani* (DeLong, 1916) (Fig. 142, Plates 1b, 8q)

*Typhlocyba morgani* DeLong, 1916a:104

*Empoa querci* var. *morgani* Van Duzee, 1917b:709

*Erythroneura morgana* DeLong, 1918b:234

*Erythroneura* (*Eratoneura*) *morgani* Young, 1952b:87

*Eratoneura morgani* Dietrich & Dmitriev, 2006a:137



**Description:** Length 3–3.4 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded. Pygofer appendage simple, narrowing near apex, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view, slightly bent dorsad. Pronotum with dark brown posterior margin, mesonotum with dark brown lateral triangles; forewing with dark brown crossband in distal half and reddish maculae.

**Type locality:** Holotype ♂, USA, Tennessee, Montgomery Co., Clarksville, 22 VII 1915 (Morgan), (OSU).

**Distribution:** Central USA.

**Host plants:** *Platanus occidentalis*.

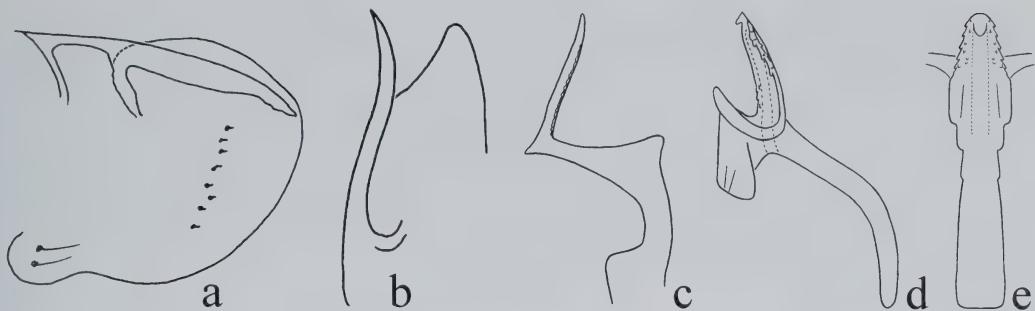


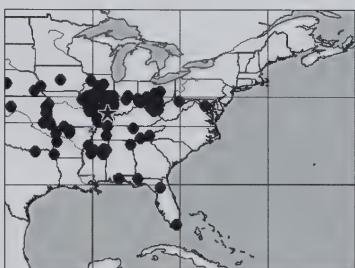
Figure 142. *E. morgani* (DeLong). a–b – from Hepner (unpublished).

143. *Eratoneura arta* (Beamer, 1931) (Fig. 143, Plate 8r)

*Erythroneura arta* Beamer, 1931d:287

*Erythroneura (Eratoneura) arta* Young, 1952b:86

*Eratoneura arta* Dietrich & Dmitriev, 2006a:134



**Description:** Length 3–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view, slightly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, White Co., 31 III 1929 (Oman), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Platanus occidentalis*.

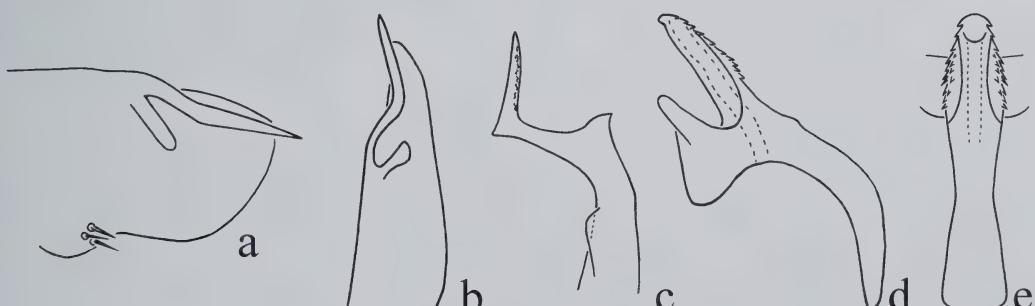


Figure 143. *E. arta* (Beamer). c – holotype.

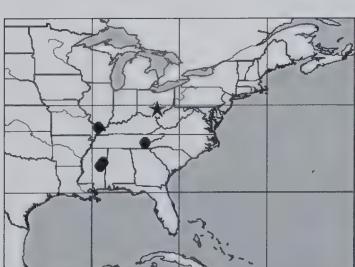
144. *Eratoneura hymettana* (Knoll, 1949) (Fig. 144, Plate 8s)

*Erythroneura hymettana* Knoll, 1949a:124

*Erythroneura (Eratoneura) hymettana* Young, 1952b:88

*Erythroneura rubrarta* Hepner, 1967b:66, *syn.n.*

*Eratoneura hymettana* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell

about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view, slightly bent dorsad. Mesonotum with dark brown apex; forewings without oblique vittae, with pale brown crossband in basal half, and reddish crossband consisting of numerous small specks distally.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 11 IV 1945 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** *Platanus occidentalis*.

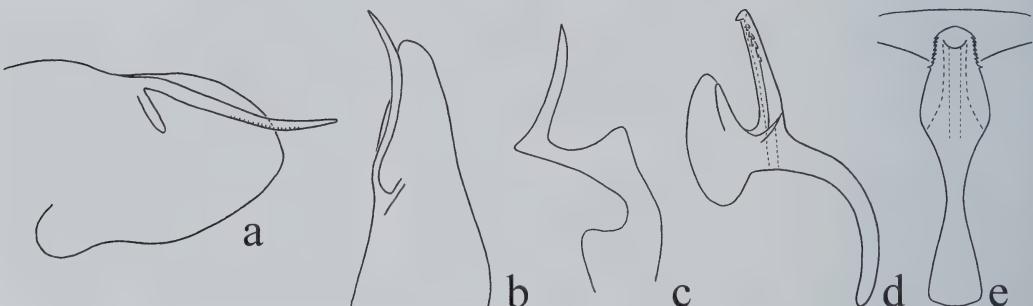


Figure 144. *E. hymettana* (Knoll). a–e – paratype.

145. *Eratoneura lawsoni* (Robinson, 1924) (Fig. 145, Plate 9a)

*Erythroneura lawsoni* Robinson, 1924a:59

*Erythroneura mediana* Robinson, 1924b:156

*Erythroneura (Eratoneura) lawsoni* Young, 1952b:87

*Erythroneura dura* Knoll, 1954b:170, **syn.n.**

*Erythroneura natchezensis* Hepner, 1967b:70, **syn.n.**

*Eratoneura lawsoni* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view, slightly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, New York, Tompkins Co., Ithaca, VII 1921, (Lawson), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Platanus occidentalis*.

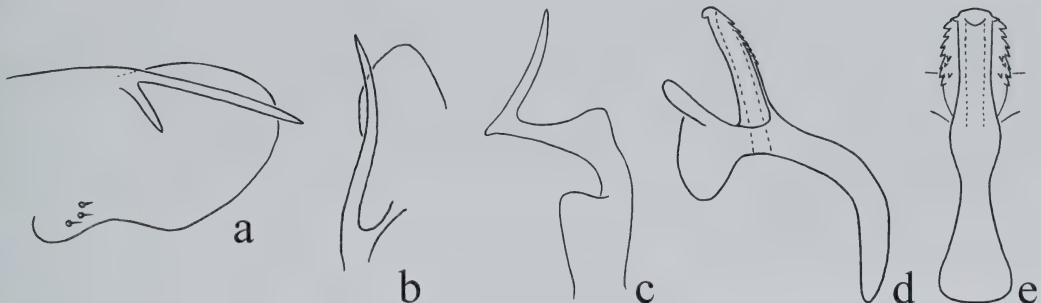


Figure 145. *E. lawsoni* (Robinson). b – from Hepner (unpublished).

**146. *Eratoneura continua* (Knoll & Auten, 1937) (Fig. 146, Plate 9b)**

*Erythroneura continua* Knoll & Auten, 1937a:578

*Erythroneura (Eratoneura) continua* Young,  
1952b:88

*Eratoneura continua* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Georgia, DeKalb Co., Decatur, McCurdy's Pond, 14 IV 1934 (Auten), (OSU).

**Distribution:** The species is known only from the type locality in Georgia.

**Host plants:** Unknown.

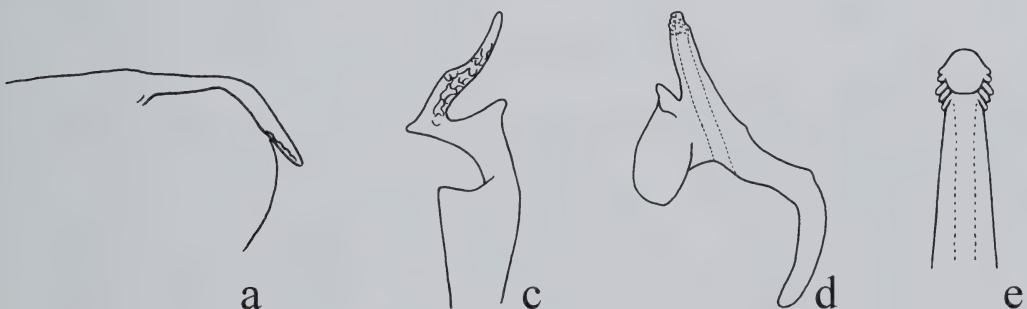
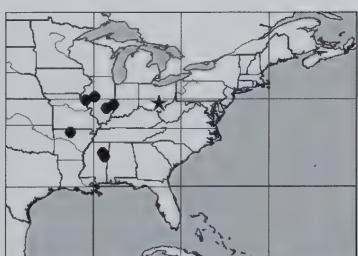


Figure 146. *E. continua* (Knoll & Auten).

**147. *Eratoneura valida* (Knoll, 1954) (Fig. 147, Plate 9c)**

*Erythroneura valida* Knoll, 1954b:174

*Eratoneura valida* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, wid-

est at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points or as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 4 V 1950 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** *Quercus* spp.

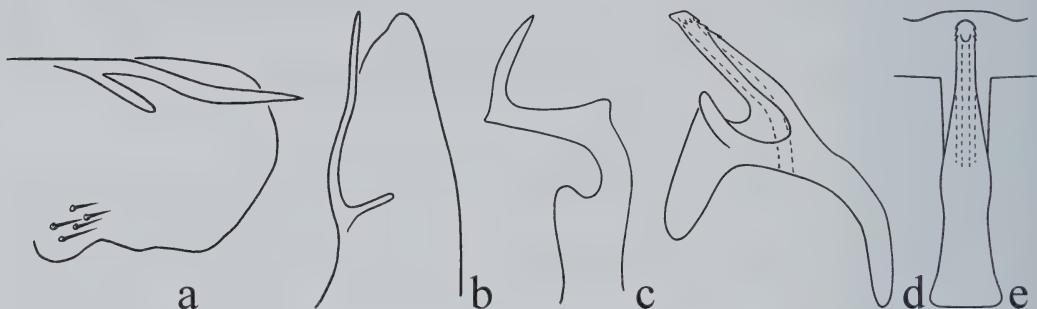


Figure 147. *E. valida* (Knoll). c – holotype.

148. *Eratoneura pamelae* (Hepner, 1967) (Fig. 148, Plate 9d)

*Erythroneura pamelae* Hepner, 1967b:67

*Eratoneura pamelae* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, slender in lateral view, round in crossection, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Quercus pagoda*, 8 VII 1964 (Hepner), (INHS).

**Distribution:** Central and northeastern USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, *Q. stellata*, *Q. velutina*, and other species of *Quercus*.

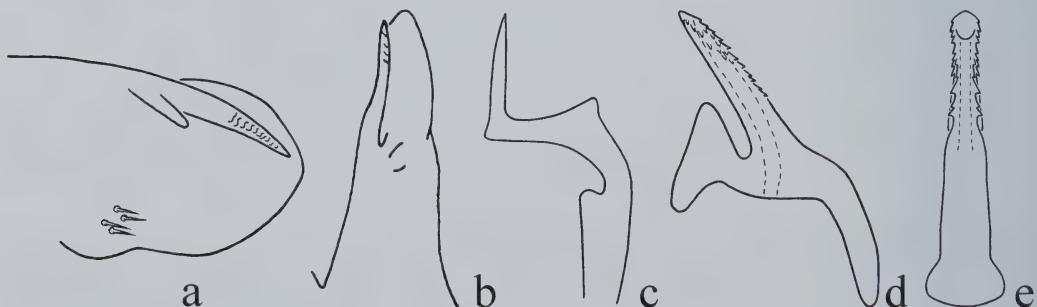


Figure 148. *E. pamelae* (Hepner). b – from Hepner (1967b).

149. *Eratoneura protuma* (Ross, 1957) (Fig. 149, Plate 9e)*Erythroneura protuma* Ross, 1957a:188*Eratoneura protuma* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike. Third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft strongly curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Ogle Co., Oregon, on *Quercus rubra* var. *ambigua*, 27 IX 1956 (Ross & Stannard), (INHS).

**Distribution:** North of central and northeastern USA.

**Host plants:** *Quercus alba*, *Q. rubra* var. *ambigua*.

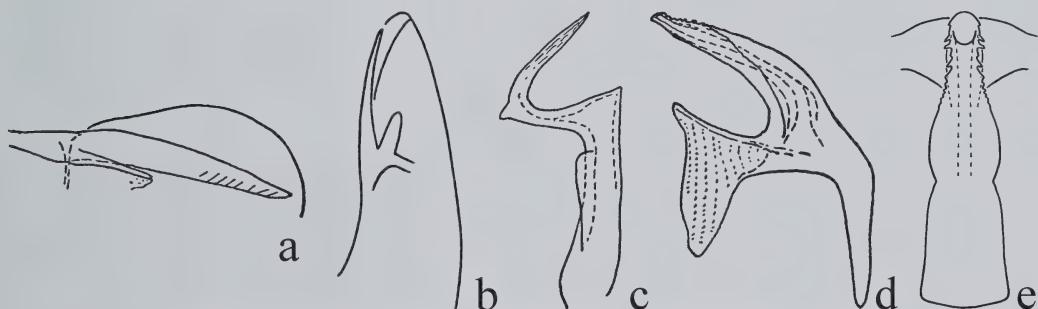


Figure 149. *E. protuma* (Ross). e – holotype; a, c, d – from Ross (1957a).

150. *Eratoneura havana* (Ross & DeLong, 1953) (Fig. 150,

Plate 9f)

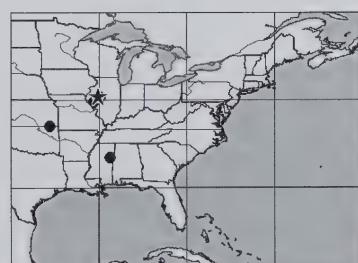
*Erythroneura havana* Ross & DeLong, 1953a:90*Eratoneura havana* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points. Angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft slightly sinuate and broad in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Mason Co., Havana, 2 VII 1934 (DeLong & Ross), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus marilandica*.



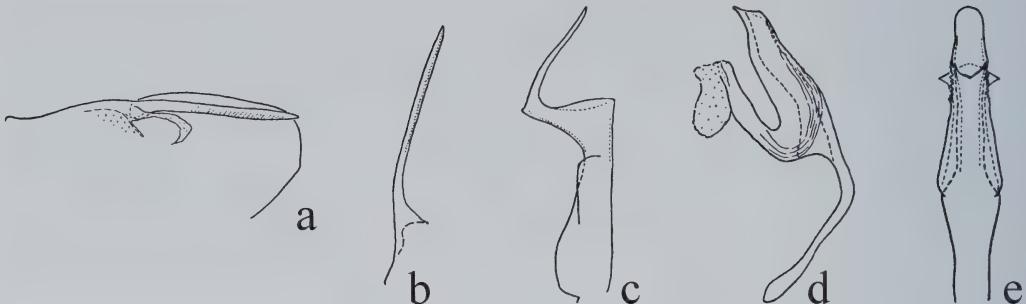


Figure 150. *E. havana* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

151. *Eratoneura gemoides* (Ross, 1953) (Fig. 151, Plate 9g)

*Erythroneura gemoides* Ross, 1953b:190

*Erythroneura douglasi* Hepner, 1967b:60, syn.n.

*Eratoneura gemoides* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 3–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base.

Second point of style apex very short, toothlike. Third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved ventrad, slender in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., Grantsburg, on *Quercus palustris*, 31 VIII 1951 (Richards & Ross), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus palustris*, *Q. lyrata*, *Q. marilandica*, and other species of *Quercus*.

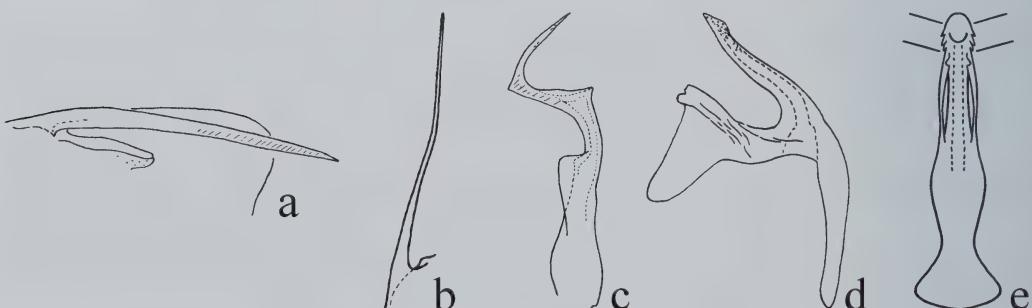


Figure 151. *E. gemoides* (Ross). e – paratype; a–d – from Ross (1953b).

152. *Eratoneura gemina* (McAtee, 1920) (Fig. 152, Plate 9i)

*Erythroneura maculata* var. *gemina* McAtee,  
1920a:301

*Erythroneura comes* var. *gemina* Leonard, 1928a:  
175

*Erythroneura gemina* Beamer, 1931a:131

*Erythroneura* (*Eratoneura*) *gemina* Young, 1952b:87

*Erythroneura nigriquera* Hepner, 1967b:60, syn.n.

*Erythroneura lyriquera* Hepner, 1967b:61, syn.n.

*Erythroneura reedi* Hepner, 1967b:61, syn.n.

*Eratoneura gemina* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.7–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex or beyond it, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, District of Columbia, Virginia side, 15 VI 1902, (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Quercus nigra*, *Q. lyrata*, *Q. phellos*, *Q. pagoda*, and other species of *Quercus*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the length of the pygofer appendage (Fig. 152a) and shape of the aedeagus.

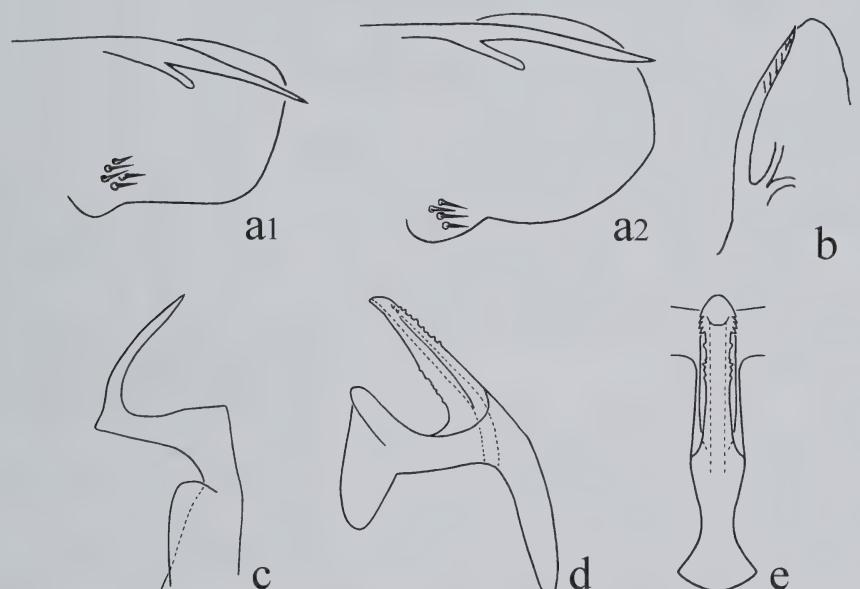


Figure 152. *E. gemina* (McAtee). a1–a2 – variation of shape of the pygofer appendage; a1 – holotype of *E. nigriquera* Hepner; a2 – holotype of *E. reedi* Hepner; b – from Hepner (unpublished).

### 153. *Eratoneura malaca* (Knoll, 1949) (Fig. 153, Plate 9h)

*Erythroneura* Knoll, 1949a:126

*Erythroneura (Eratoneura) malaca* Young, 1952b:87

*Eratoneura malaca* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.



**Type locality:** Holotype ♂, USA, Ohio, Highland Co., 6 VI 1945 (Knoll), (OSU).

**Distribution:** Ohio.

**Host plants:** Unknown.

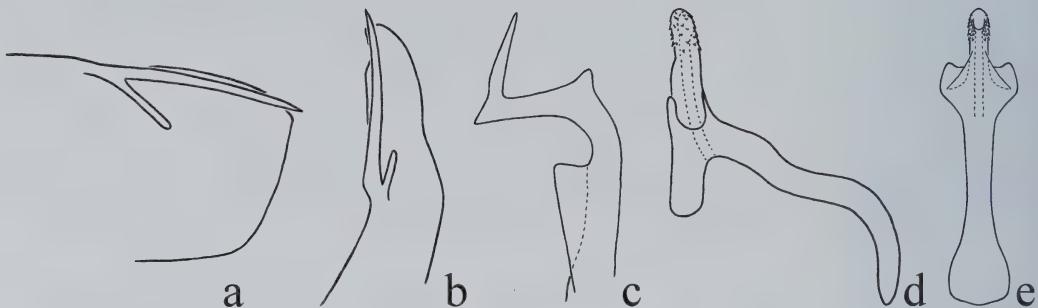


Figure 153. *E. malaca* (Knoll).

154. *Eratoneura penesica* (Beamer, 1931) (Fig. 154, Plate 9j)

*Erythroneura penesica* Beamer, 1931c:269

*Erythroneura (Eratoneura) penesica* Young,  
1952b:87

*Erythroneura penesica* Fattig, 1955a:37, missp.

*Erythroneura krameri* Hepner, 1967b:67, syn.n.

*Eratoneura penesica* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base; second point of style apex very short, toothlike. Third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Carya tomentosa*, *C. ovata*, *C. glabra*, *C. leiodermis*, and other species of *Carya*.

**Notes:** The holotype of *E. krameri* Hepner has the aedeagus with poorly developed lateral lobes.



Figure 154. *E. penesica* (Beamer). c – holotype; b – from Hepner (unpublished).

155. *Eratoneura parallela* (McAtee, 1924) (Fig. 155, Plate 9k)

*Erythroneura maculata* var. *parallela* McAtee,  
1924c:38

*Erythroneura parallela* Beamer, 1931b:243

*Erythroneura (Eratoneura) parallela* Young,  
1952b:87

*Eratoneura parallela* Dietrich & Dmitriev,  
2006a:137



**Description:** Length 2.5–2.7 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, ovoid in ventral view, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Forewings with oblique vittae usually forming continuous zigzag pattern; abdomen with dark dorsum.

**Type locality:** Holotype ♂, USA, Massachusetts, Middlesex Co., Lexington, 28 IX 1920, (USNM).

**Distribution:** North central and northeastern USA, southeastern Canada.

**Host plants:** *Comptonia peregrina*.

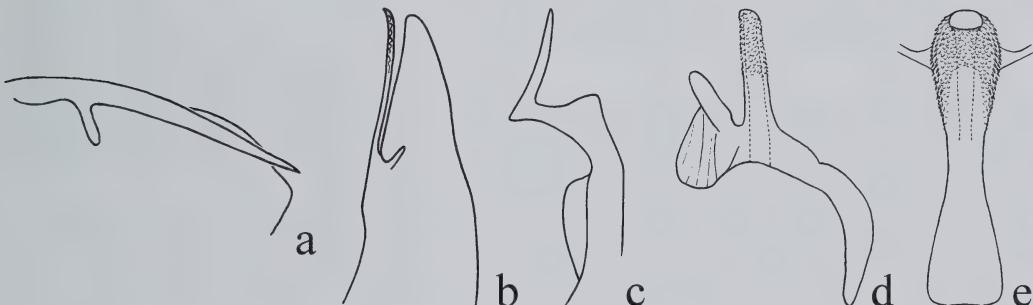


Figure 155. *E. parallela* (McAtee). b–e – paratype.

156. *Eratoneura severini* (Knoll, 1949) (Fig. 156, Plate 9l)

*Erythroneura severini* Knoll, 1949a:125

*Erythroneura (Eratoneura) severini* Young,  
1952b:87

*Eratoneura severini* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate at apex. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, depressed, denticulate distally, without lateral lobes or distal processes; apex blunt in ventral view, slightly bent dorsad. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, South Dakota, Fall River Co., Hot Springs, 17 IX 1919, (OSU).

**Distribution:** South Dakota.

**Host plants:** Unknown.

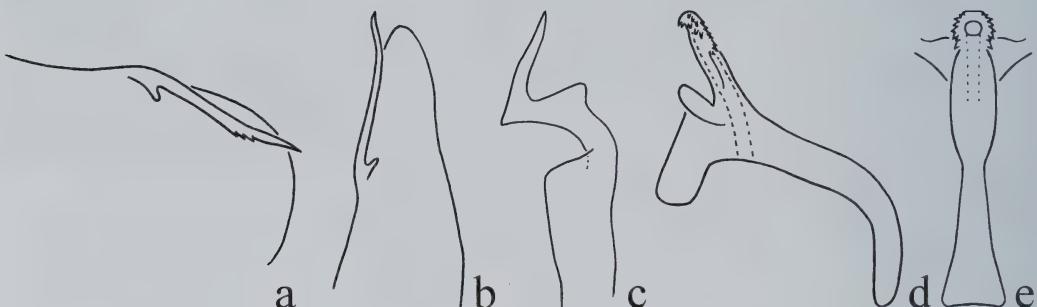


Figure 156. *E. severini* (Knoll).

157. *Eratoneura claroides* (Hepner, 1967) (Fig. 167, Plate 9m)

*Erythroneura claroides* Hepner, 1967a:17

*Erythroneura kuiterti* Hepner, 1967a:17, **syn.n.**

*Eratoneura claroides* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.8–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point more than 2 times as long as distance between other 2 points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; aedeagal shaft curved dorsad, slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 4 III 1962 (Hepner), (INHS).

**Distribution:** South central USA.

**Host plants:** Unknown.

**Notes:** The holotype was collected on 4 III 1962, not on 4 III 1961 as stated in the original publication.

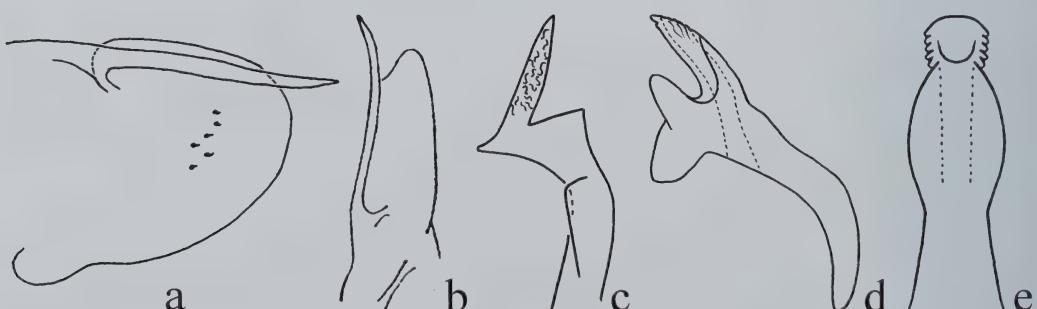


Figure 157. *E. claroides* (Hepner). e – holotype; a – from Hepner (unpublished); b – from Hepner (1967a).

158. *Eratoneura lunata* (McAtee, 1924) (Fig. 158, Plate 9n)*Erythroneura lunata* McAtee, 1924e:41*Erythroneura septima* Beamer, 1927a:30, **syn.n.***Erythroneura (Eratoneura) lunata* Young, 1952b:87*Eratoneura lunata* Dietrich & Dmitriev, 2006a:136

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad or larger, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, curved upward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Dorsum whitish with brown color pattern; mesonotum pale, with dark lateral triangles and apex; forewings with brown continuous zigzag pattern.

**Type locality:** Holotype ♂, USA, Illinois, Champaign Co., Urbana, tree trunk, 11 XI 1915, (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus pagoda*, *Q. alba*, and other species of *Quercus*.

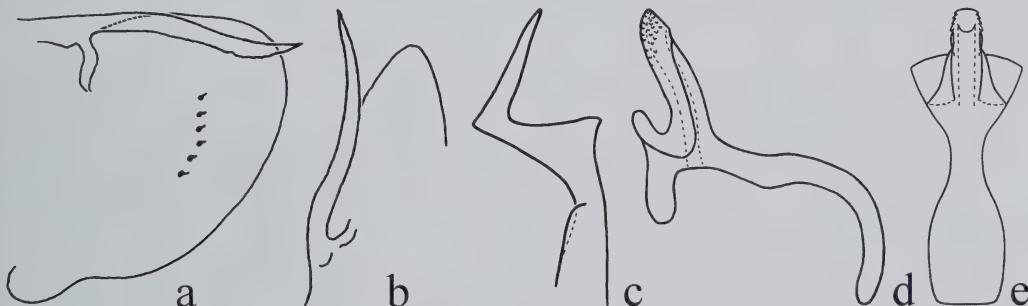


Figure 158. *E. lunata* (McAtee). e – holotype of *E. septima* Beamer; a–b – from Hepner (unpublished).

159. *Eratoneura adunca* (Beamer, 1932) (Fig. 159, Plate 9o)*Erythroneura adunca* Beamer, 1932c:46*Erythroneura simplex* Knoll & Auten, 1937a:575(sec.hom. of *Zygina blandula* var. *simplex* Ferrari, 1882a), **syn.n.***Erythroneura ordinaria* Knoll & Auten, 1938b:651, n.nov. (prim.hom. of *Erythroneura ordinaria* Ribaut, 1936b), **syn.n.***Erythroneura perplexa* Knoll, 1944b:123, n.nov., **syn.n.***Erythroneura (Eratoneura) adunca* Young, 1952b:86  
*Eratoneura adunca* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.6–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight or very slightly curved in dorsal view,

straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft with apex curved ventrad, slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, District of Columbia, Rock Creek Park, Washington D.C., 31 XII 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, *Q. marilandica*, and other species of *Quercus*.



Figure 159. *E. adunca* (Beamer). c<sub>1</sub>–c<sub>2</sub> – variation of shape of the style; c<sub>1</sub> – holotype; c<sub>2</sub> – holotype of *E. perplexa* Knoll; a–b – from Hepner (unpublished).

160. *Eratoneura curta* (Beamer, 1932) (Fig. 160, Plate 9p)

*Erythroneura curta* Beamer, 1932e:86

*Erythroneura (Eratoneura) curta* Young, 1952b:86

*Eratoneura curta* Dietrich & Dmitriev, 2006a:135



**Description:** Length 2.7–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight or very slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Iowa, Clayton Co., 19 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Quercus alba*.

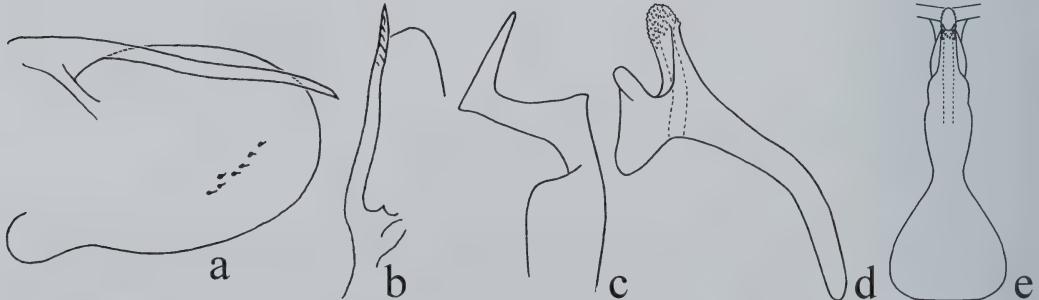


Figure 160. *E. curta* (Beamer). c–d – holotype; a–b – from Hepner (unpublished).

**161. *Eratoneura ballista* (Beamer, 1932) (Fig. 161, Plate 9q)**

*Erythroneura ballista* Beamer, 1932e:84

*Erythroneura (Eratoneura) ballista* Young, 1952b:88

*Eratoneura ballista* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.5–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, strongly sinuate in dorsal view, strongly curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft strongly curved dorsad, slender in lateral view, depressed, denticulate distally, with lateral lobes along entire length of shaft, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Lawrence Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Prunus lanata*, *P. persica*.

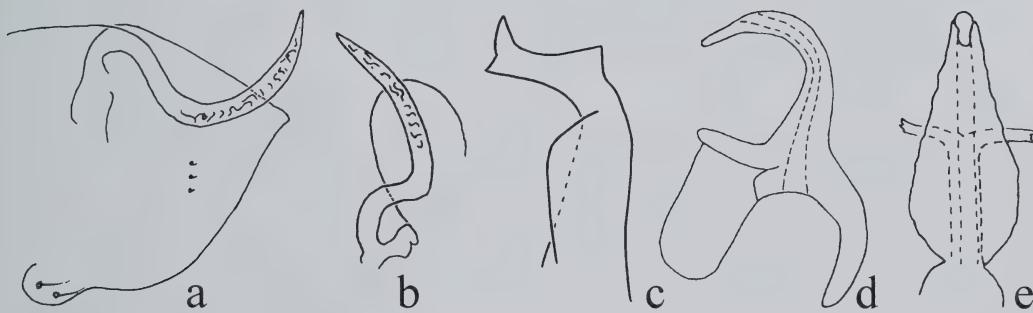


Figure 161. *E. ballista* (Beamer). c – holotype; a, b, e – from Hepner (unpublished).

**162. *Eratoneura rostrata* (Beamer, 1931) (Fig. 162, Plate 9r)**

*Erythroneura rostrata* Beamer, 1931c:270

*Erythroneura (Eratoneura) rostrata* Young, 1952b:88

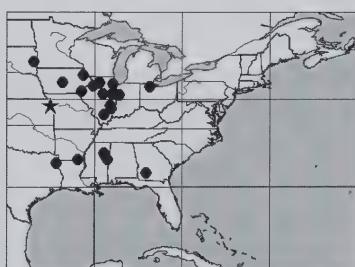
*Eratoneura rostrata* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.6–2.7 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight or curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft strongly curved dorsad, broad in lateral view, compressed, denticulate distally, with dorsal carina, without lateral lobes or processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Prunus lanata*, *P. virginiana*.



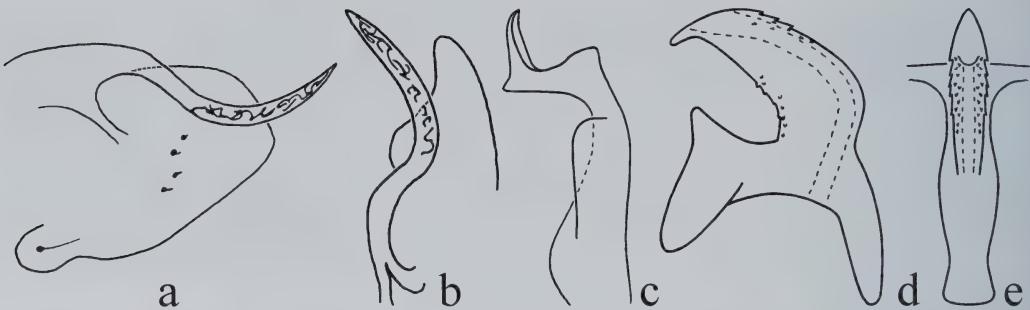


Figure 162. *E. rostrata* (Beamer). c-d – paratype; a-b – from Hepner (unpublished).

163. *Eratoneura penerostrata* (Beamer, 1932) (Fig. 163, Plate 9s)

*Erythroneura penerostrata* Beamer, 1932e:85

*Erythroneura (Eratoneura) penerostrata* Young, 1952b:88

*Eratoneura penerostrata* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.5–2.6 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, smooth, with dorsal carina, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Arkansas, Searcy Co., Marshall, 22 III 1931 (Anderson), (KSEM).

**Distribution:** South central USA.

**Host plants:** *Ostrya virginiana*.

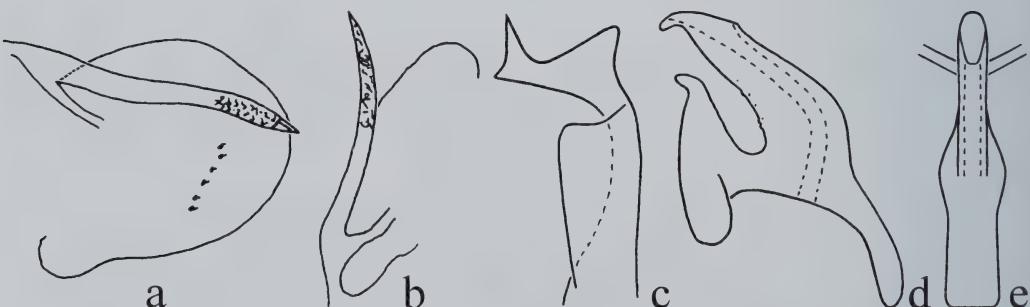


Figure 163. *E. penerostrata* (Beamer). c-d – holotype; a-b – from Hepner (unpublished).

164. *Eratoneura emqua* (Ross & DeLong, 1953) (Fig. 164,

Plate 9t)

*Erythroneura emqua* Ross & DeLong, 1953a:88*Eratoneura emqua* Dietrich & Dmitriev, 2006a:135

**Description:** Length 2.7–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Florida, Taylor Co., Perry, on *Myrica cerifera*, 17 XII 1949 (Stannard et. al.), (INHS).

**Distribution:** Southeastern USA.

**Host plants:** *Quercus nigra*, *Q. phellos*, and other species of *Quercus*.

**Notes:** The holotype was collected on a non host plant species.

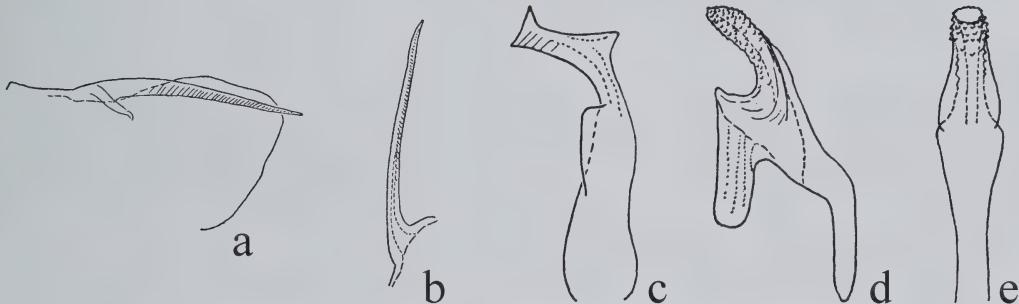


Figure 164. *E. emqua* (Ross & DeLong). a–e – from Ross & DeLong (1953a).

165. *Eratoneura trivittata* (Robinson, 1924) (Fig. 165, Plate

9u)

*Erythroneura trivittata* Robinson, 1924a:59*Erythroneura (Eratoneura) trivittata* Young, 1952b:88*Eratoneura trivittata* Dietrich & Dmitriev, 2006a:139

**Description:** Length 2.9–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin.

Pygofer lobe angulate; appendage simple, extended to pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus triangular, without sclerotized connection to anal tube or pygofer appendages; preatrium about as long as shaft; shaft straight and slender in lateral view, compressed, denticulate distally; with lateral lobes at base, without processes; apex acuminate in ventral view. Mesonotum dark brown; forewings without oblique vittae, with 3 red narrow crossbands.

**Type locality:** Holotype ♂, USA, Missouri, Jackson Co., Kansas City, dry leaves, 1 XII 1901 (Rogers), (KSEM).

**Distribution:** North central USA.

**Host plants:** *Quercus imbricaria*.

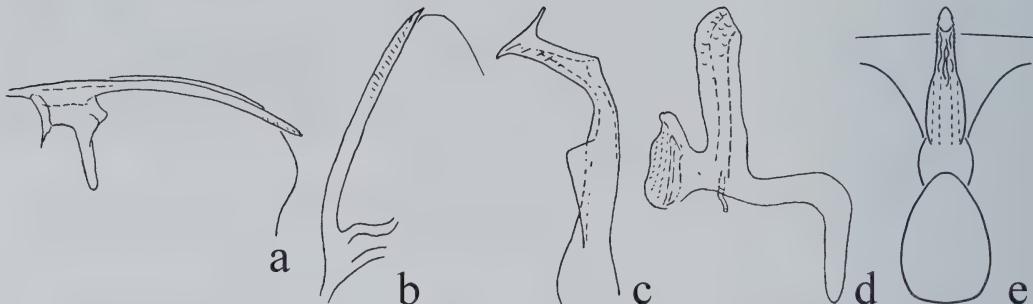


Figure 165. *E. trivittata* (Robinson). a, c, d – from Ross (1958a); b – from Hepner (unpublished).

166. *Eratoneura anseri* (Hepner, 1966) (Fig. 166, Plate 9v)

*Erythroneura anseri* Hepner, 1966d:103

*Eratoneura anseri* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base.

Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus, usually pale.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, on *Carya leiodermis*, 19 VIII 1963 (Hepner), (INHS).

**Distribution:** Central USA.

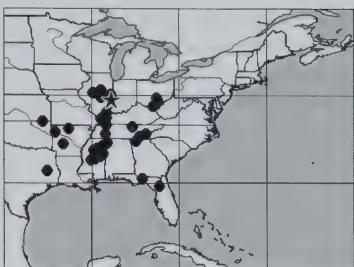
**Host plants:** *Carya glabra*, *C. tomentosa*, *C. leiodermis*, and other species of *Carya*.



Figure 166. *E. anseri* (Hepner). a–e – from Ross & DeLong (1950a).

167. *Eratoneura stoveri* (Ross & DeLong, 1950) (Fig. 167,

Plate 10a)

*Erythroneura stoveri* Ross & DeLong, 1950a:296*Erythroneura (Eratoneura) stoveri* Young,  
1952b:120*Erythroneura wiyguli* Hepner, 1966d:103, **syn.n.***Eratoneura stoveri* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended to pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad near apex, slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus; forewing often with red spot in distal part of clavus.

**Type locality:** Holotype ♂, USA, Illinois, Clark Co., Rocky Branch Creek, Oliver, 22 IV 1949 (Ross & Stannard), (INHS).

**Distribution:** Central and southeastern USA.

**Host plants:** *Carya tomentosa*, *Ulmus rubra*, *U. americana*.

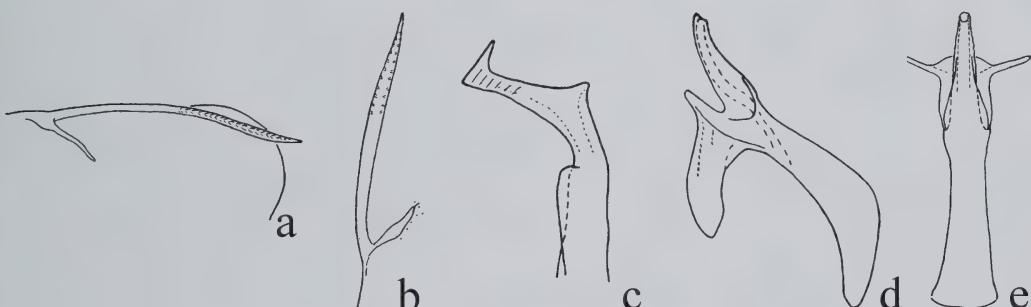
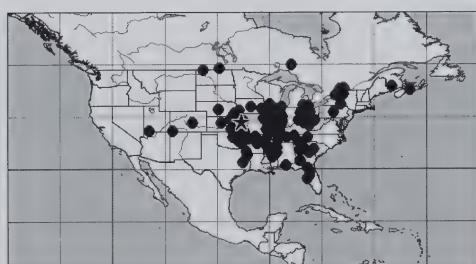


Figure 167. *E. stoveri* (Ross & DeLong). a–e – from Ross & DeLong (1950a).

168. *Eratoneura campora* (Robinson, 1924) (Fig.

168, Plate 9w)

*Erythroneura campora* Robinson,  
1924a:59*Erythroneura (Eratoneura) campora*  
Young, 1952b:86*Erythroneura sabita* Sinha & Beamer,  
1954a:105, **syn.n.***Erythroneura larryi* Hepner, 1966a:89,  
**syn.n.***Erythroneura codyi* Hepner, 1966d:101,  
**syn.n.***Erythroneura accicurta* Hepner, 1966d:106, **syn.n.***Erythroneura brazzeli* Hepner, 1966d:106, **syn.n.***Erythroneura compora* Metcalf, 1968a:1069, missp.*Erythroneura curtoidea* Hepner, 1972c:272, **syn.n.***Erythroneura mariquera* Hepner, 1973a:186, **syn.n.***Eratoneura campora* Dietrich & Dmitriev, 2006a:134

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., X 1923, (Robinson), (KSEM).

**Distribution:** USA, southern Canada.

**Host plants:** *Ulmus alata*, *U. americana*, *U. rubra*, *Ilex decidua*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape of the pygofer appendage, style, and aedeagus (Fig. 168). *E. sabita* Sinha & Beamer was by mistake originally placed to the *Erythroneura obliqua* species group and latter transferred to the genus *Erythridula* (Sinha & Beamer, 1954a; Dietrich & Dmitriev, 2006a).

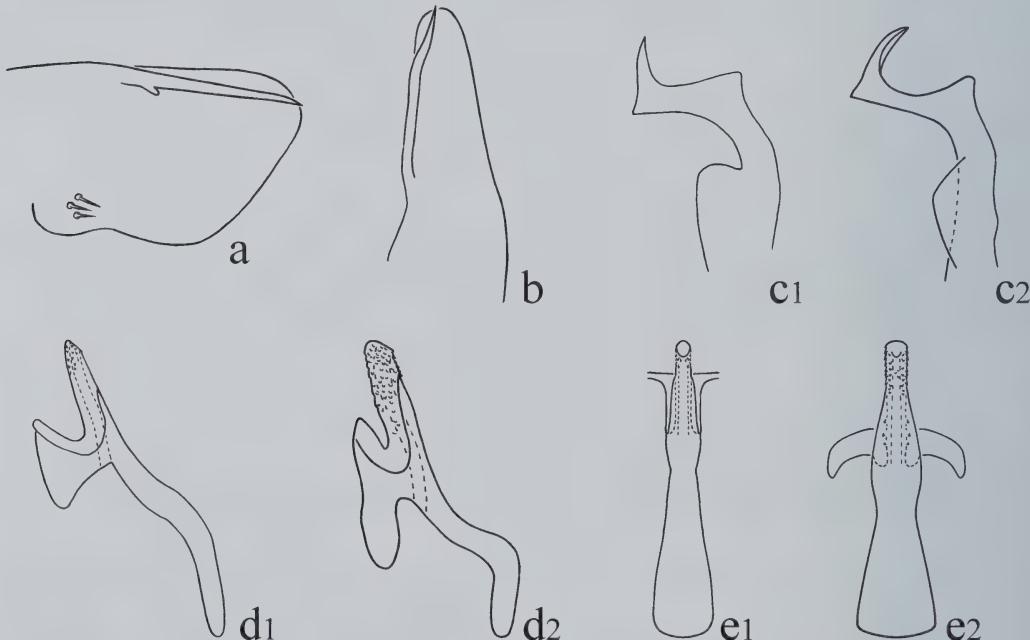


Figure 168. *E. campora* (Robinson). c<sub>1</sub>–c<sub>2</sub> – variation of shape of the style; d<sub>1</sub>–e<sub>2</sub> – variation of shape of the aedeagus; c<sub>1</sub> – holotype; c<sub>2</sub>, d<sub>2</sub>, e<sub>2</sub> – holotype of *E. accicurta* Hepner.

169. *Eratoneura spinifera* (Beamer, 1931) (Fig. 169, Plate 10b)

*Erythroneura spinifera* Beamer, 1931b:240

*Erythroneura compressa* Knull & Auten, 1937a:573,  
syn.n.

*Erythroneura (Eratoneura) spinifera* Young,  
1952b:87

*Erythroneura caddoensis* Hepner, 1966b:100, syn.n.  
*Eratoneura spinifera* Dietrich & Dmitriev,  
2006a:138



**Description:** Length 2.7–2.9 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, broad in lateral view, depressed, denticulate distally; with lateral lobes at base, without processes; apex broadened in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Leavenworth Co., 28 IV 1928 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Crataegus* sp.

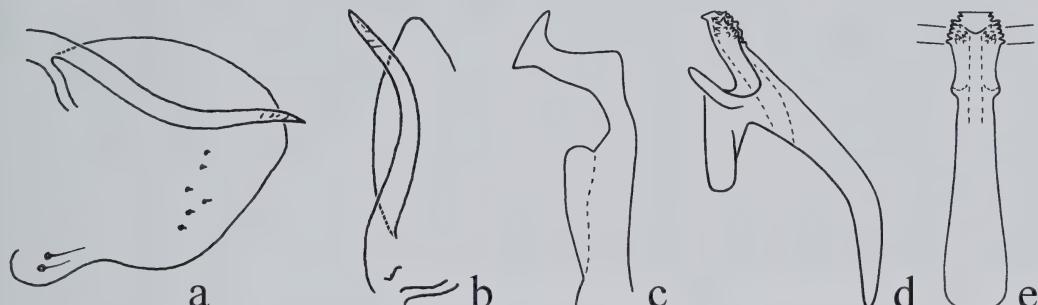


Figure 169. *E. spinifera* (Beamer). c – paratype; a–b – from Hepner (unpublished).

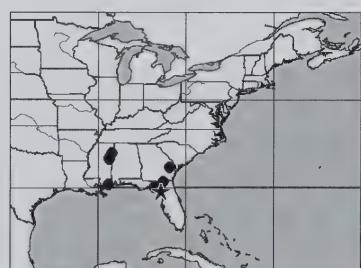
170. *Eratoneura comoides* (Ross & DeLong, 1953) (Fig. 170,

Plate 10c)

*Erythroneura comoides* Ross & DeLong, 1953a:90

*Eratoneura comoides* Dietrich & Dmitriev,

2006a:135



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Forewings with oblique vittae forming continuous zigzag pattern.

**Type locality:** Holotype ♂, USA, Florida, Levy Co., Chiefland, on *Quercus myrtifolia*, 17 XII 1949 (Stannard), (INHS).

**Distribution:** South of central and southeastern USA.

**Host plants:** *Quercus nigra*, *Q. phellos*, and other species of *Quercus*.

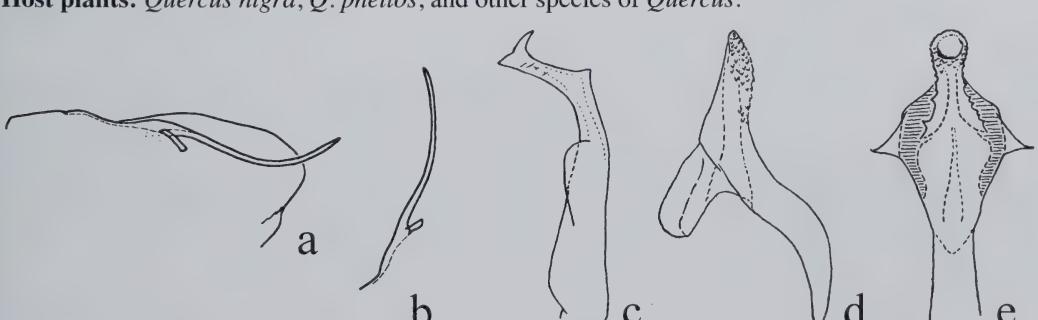


Figure 170. *E. comoides* (Ross & DeLong). from Ross & DeLong (1953a).

171. *Eratoneura confirmata* (McAtee, 1924) (Fig. 171, Plate 10d)

*Erythroneura maculata* var. *confirmata* McAtee,  
1924c:37

*Erythroneura mitella* McAtee, 1926c:132

*Erythroneura confirmata* Beamer, 1932f:134

*Erythroneura (Eratoneura) confirmata* Young,  
1952b:86

*Eratoneura confirmata* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.7–3.1 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Forewing with red zigzag pattern.

**Type locality:** Holotype ♂, USA, Virginia, Chain Bridge, 23 IV 1922 (Malloch).

**Distribution:** North central and northeastern USA.

**Host plants:** *Quercus imbricaria*.

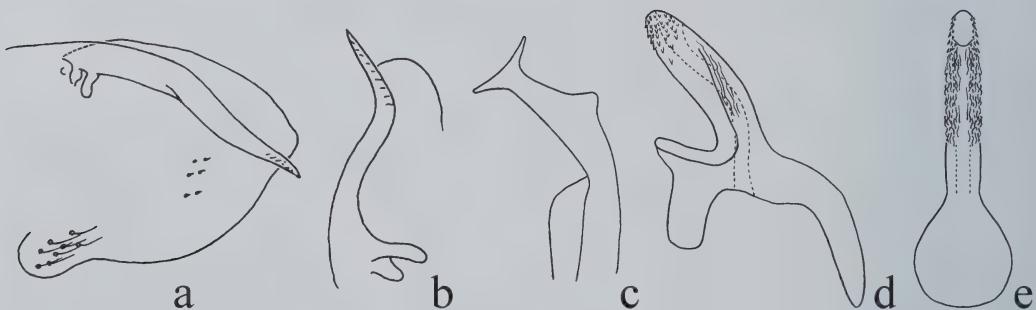


Figure 171. *E. confirmata* (McAtee). a–b – from Hepner (unpublished).

172. *Eratoneura phellos* (Ross & DeLong, 1953) (Fig. 172, Plate 10e)

*Erythroneura phellos* Ross & DeLong, 1953a:90

*Eratoneura phellos* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, compressed, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Massac Co., Mermet, on *Quercus phellos*, 20 IX 1950 (Ross & Evers), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus phellos*.



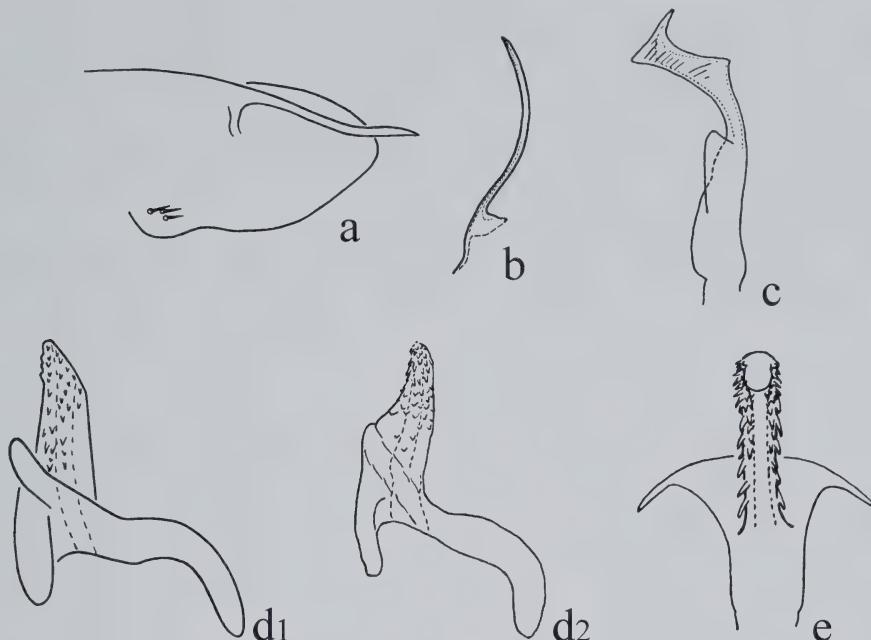


Figure 172. *E. phellos* (Ross & DeLong). a – paratype; d<sub>1</sub>–d<sub>2</sub> – variation of shape of the aedeagus; b, c, d<sub>2</sub>, e – from Ross & Delong (1953a).

**173. *Eratoneura bigemina* (McAtee, 1924) (Fig. 173, Plate 10f)**

*Typhlocyba comes* var. *apicalis* DeLong, 1916a:108  
(sec.hom. of *Zygina apicalis* Nawa, 1913a)

*Erythroneura maculata* var. *bigemina* McAtee,  
1920a:300

*Erythroneura maculata* var. *begemina* McAtee,  
1924d:133, missp.

*Erythroneura bigemina* Beamer, 1932f:143

*Erythroneura* (*Eratoneura*) *bigemina* Young,  
1952b:86

*Erythroneura masonae* Knull, 1954b:171, **syn.n.**

*Erythroneura bigemminalis* Fattig, 1955a:36, missp.

*Erythroneura meadi* Hepner, 1966a:79, **syn.n.**

*Erythroneura hibernia* Hepner, 1966a:83, **syn.n.**

*Erythroneura rossi* Hepner, 1966a:85, **syn.n.**

*Erythroneura reiteri* Hepner, 1966a:87, **syn.n.**

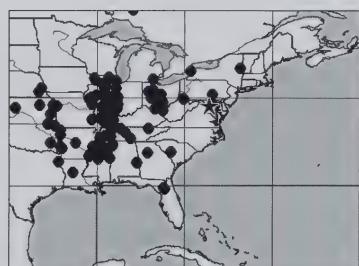
*Erythroneura billi* Hepner, 1966a:88, **syn.n.**

*Erythroneura patriciae* Hepner, 1966a:88, **syn.n.**

*Erythroneura lillianae* Hepner, 1966a:89, **syn.n.**

*Erythroneura robinsoni* Hepner, 1966a:89, **syn.n.**

*Eratoneura bigemina* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.7–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in

lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 20 VIII 1914 (McAtee), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Carya tomentosa*, *Ulmus alata*, *U. rubra*, *U. americana*.

**Notes:** Taxa here treated as synonyms appear to represent intraspecific variation in the shape of the pygofer appendage, style, and aedeagus (Fig. 173).

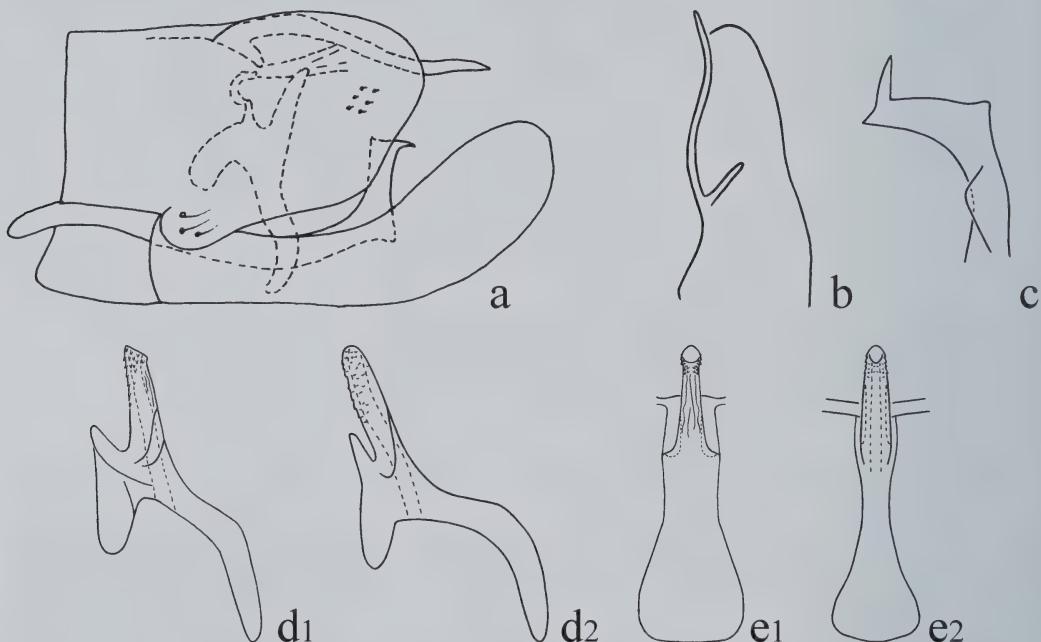


Figure 173. *E. bigemina* (McAtee). d1–e3 – variation of shape of the aedeagus; d2 – holotype; e2 – holotype of *E. billi* Hepner; a – from Hepner (unpublished).

#### 174. *Eratoneura mensa* (Beamer, 1931) (Fig. 174, Plate 10g)

*Erythroneura mensa* Beamer, 1931d:287

*Erythroneura (Eratoneura) mensa* Young, 1952b:87

*Eratoneura mensa* Dietrich & Dmitriev, 2006a:137

**Description:** Length 3.2–3.4 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsad, broad in lateral view, compressed, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Quercus rubra* var. *ambigua*, *Q. alba*.



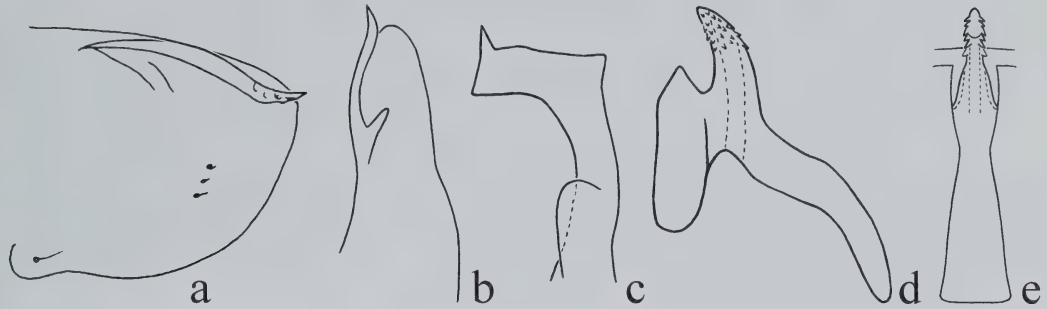


Figure 174. *E. mensa* (Beamer). a – from Hepner (unpublished).

**175. *Eratoneura basilaris* (Say, 1825) (Fig. 175, Plate 10h)**

*Tettigonia basilaris* Say, 1825a:344

*Erythroneura basillaris* Fitch, 1851a:63, missp.

*Erythroneura basalis* Glover, 1877a:33, missp.

*Erythroneura basalaris* Lawson, 1920a:51, missp.

*Erythroneura (Eratoneura) basilaris* Young,

1952b:86

*Erythroneura daltonorum* Hepner, 1966a:81, syn.n.

*Erythroneura youngi* Hepner, 1966a:87, syn.n.

*Erythroneura custeri* Hepner, 1966a:89, syn.n.

*Erythroneura rubulna* Hepner, 1972a:433, syn.n.

*Erythroneura wolcottensis* Hepner, 1973a:185, syn.n.

*Eratoneura basilaris* Dietrich & Dmitriev, 2006a:134



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, twisted at middle, extended to pygofer apex or extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Neotype ♂, USA, Kansas, Anderson Co., 26 XI 1927 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Ulmus americana*, *U. rubra*, *U. alata*, *Ilex decidua*.

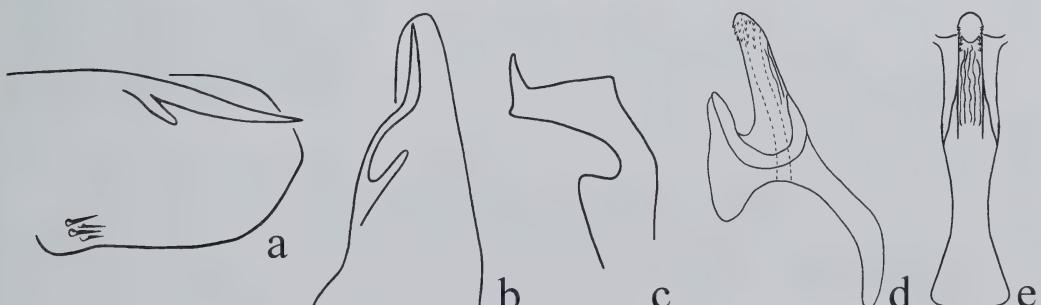


Figure 175. *E. basilaris* (Say).

176. *Eratoneura micheneri* (Hepner, 1972) (Fig. 176, Plate 10i)

*Erythroneura micheneri* Hepner, 1972c:271  
*Eratoneura micheneri* Dietrich & Dmitriev,  
 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Forewing usually with red spot near middle.

**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 18 II 1962 (Hepner), (INHS).

**Distribution:** Central USA.

**Host plants:** Unknown.

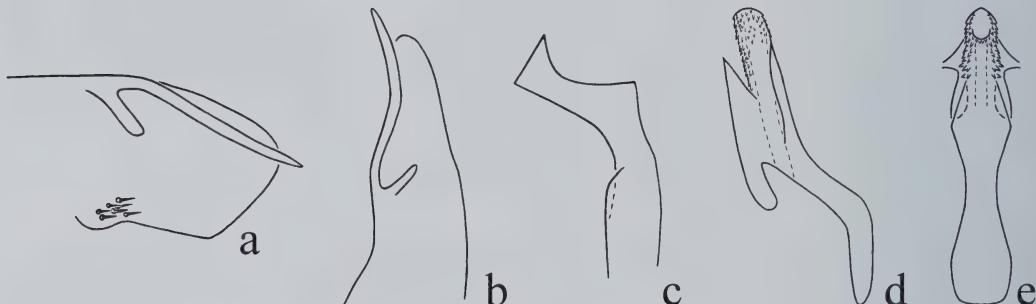


Figure 176. *E. micheneri* (Hepner). c – holotype; d–e – paratype.

177. *Eratoneura lucyae* (Hepner, 1966) (Fig. 177, Plate 10j)

*Erythroneura lucyae* Hepner, 1966a:81  
*Erythroneura bainieri* Hepner, 1972c:271, *syn.n.*  
*Eratoneura lucyae* Dietrich & Dmitriev, 2006a:136

**Description:** Length 3–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in crossection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Mississippi, Noxubee Co., on *Quercus lyrata*, 27 VI 1963 (Hepner), (INHS).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus lyrata*.



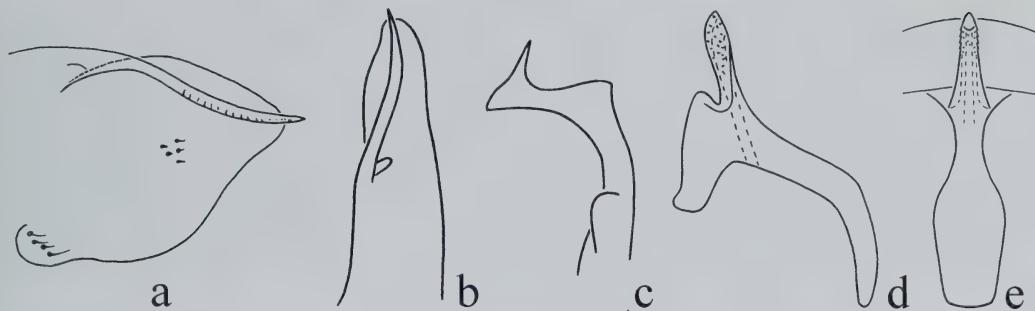


Figure 177. *E. lucyae* (Hepner). b – paratype; c–e – holotype of *E. bainterii* Hepner; a – from Hepner (unpublished).

178. *Eratoneura guicei* (Hepner, 1972) (Fig. 178, Plate 10k)

*Erythroneura guicei* Hepner, 1972c:269

*Eratoneura guicei* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, compressed, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate ventrally. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in crosssection, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Lee Co., Amboy, on *Quercus macrocarpa*, 27 IX 1956 (Stannard & Ross), (INHS).

**Distribution:** North central USA.

**Host plants:** *Quercus macrocarpa*.

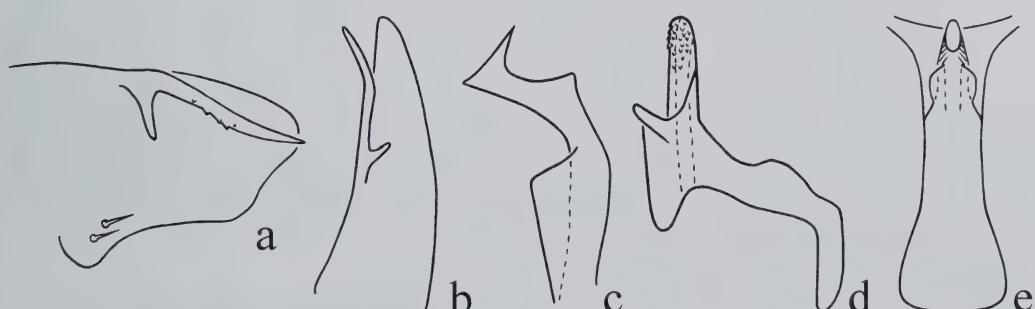


Figure 178. *E. guicei* (Hepner).

179. *Eratoneura lundi* (Hepner, 1967) (Fig. 179, Plate 10l)

*Erythroneura lundi* Hepner, 1967a:22

*Eratoneura lundi* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.5–2.6 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base, denticulate.

Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft sinuate and broad in lateral view, depressed, round in ventral view, denticulate distally; without lateral lobes or processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Tennessee, Overton Co., Timothy, on *Ostrya virginiana*, 1 IX 1963 (Hepner), (INHS).

**Distribution:** The species is known only from the type locality in Tennessee.

**Host plants:** *Ostrya virginiana*.

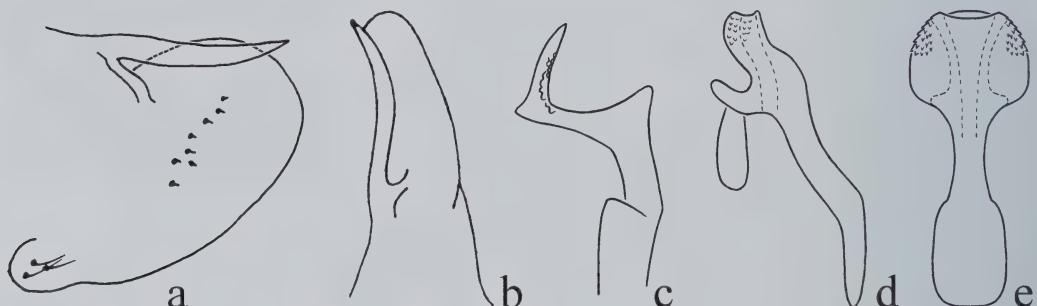


Figure 179. *E. lundi* (Hepner). c–e – holotype; a – from Hepner (unpublished); b – from Hepner (1967a).

180. *Eratoneura marra* (Beamer, 1932) (Fig. 180, Plate 10m)

*Erythroneura marra* Beamer, 1932g:160

*Erythroneura (Eratoneura) marra* Young, 1952b:88

*Eratoneura marra* Dietrich & Dmitriev, 2006a:137



**Description:** Length 2.6–2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved upward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Dorsal apodeme of aedeagus with distinct V-shaped ligaments, connected to pygofer appendages; preatrium shorter than shaft; shaft curved dorsad, slender in lateral view, depressed, smooth, with long dorsal distal lobe, with lateral lobes at base, without processes; apex broadened in ventral view, strongly bent dorsad. Coloration usual for genus, with very small maculae.

**Type locality:** Holotype ♂, USA, District of Columbia, Washington D.C., Zool. Park, 1930, (Oman), (KSEM).

**Distribution:** Central and northeastern USA, southeastern Canada.

**Host plants:** *Hamamelis virginiana*.

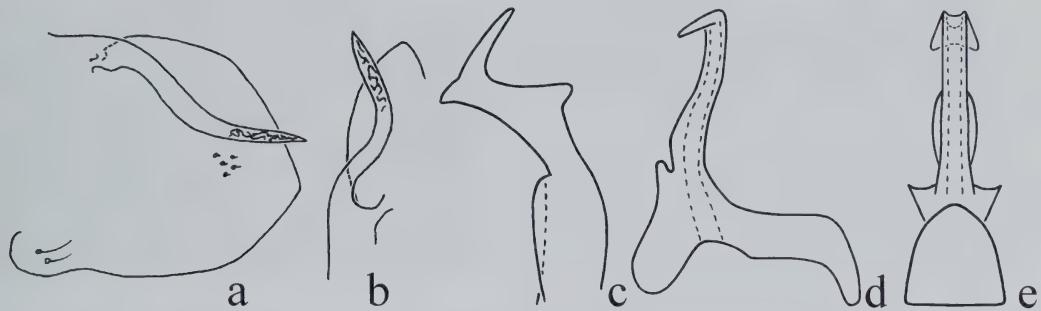
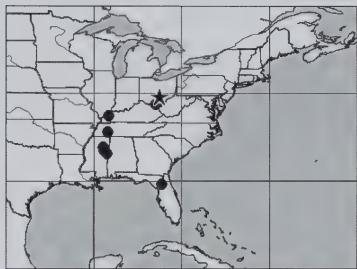


Figure 180. *E. marra* (Beamer). a–b – from Hepner (unpublished).

181. *Eratoneura staminea* (Knoll, 1954) (Fig. 181, Plate 10n)

*Erythroneura staminea* Knoll, 1954b:171

*Eratoneura staminea* Dietrich & Dmitriev,  
2006a:138



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, strongly curved inward and downward distally, widest at base.

Second point of style apex very short, toothlike; third point elongate, not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, depressed and ovoid in ventral view, denticulate distally, with lateral lobes along entire length of shaft; without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 4 V 1950 (Knoll), (OSU).

**Distribution:** Central and southeastern USA.

**Host plants:** *Quercus pagoda*, *Q. falcata*, *Q. velutina*, *Q. marilandica*, and other species of *Quercus*.

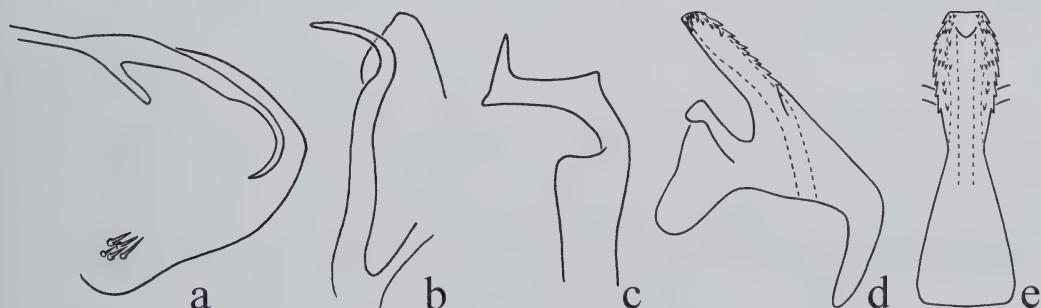


Figure 181. *E. staminea* (Knoll). a – paratype; c – holotype; b – from Hepner (unpublished).

182. *Eratoneura unca* (Knoll, 1954) (Fig. 182, Plate 10o)

*Erythroneura unca* Knoll, 1954b:174

*Eratoneura unca* Dietrich & Dmitriev, 2006a:139



**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, compressed, extended to pygofer apex, straight or very slightly curved in dorsal view, strongly curved downward in lateral view, widest at base, denticulate dorsally. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus except forewings usually with darkened basal half.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 12 V 1947 (Knoll), (OSU).

**Distribution:** Central USA, south central Canada.

**Host plants:** *Ulmus americana*, *Ilex decidua*.

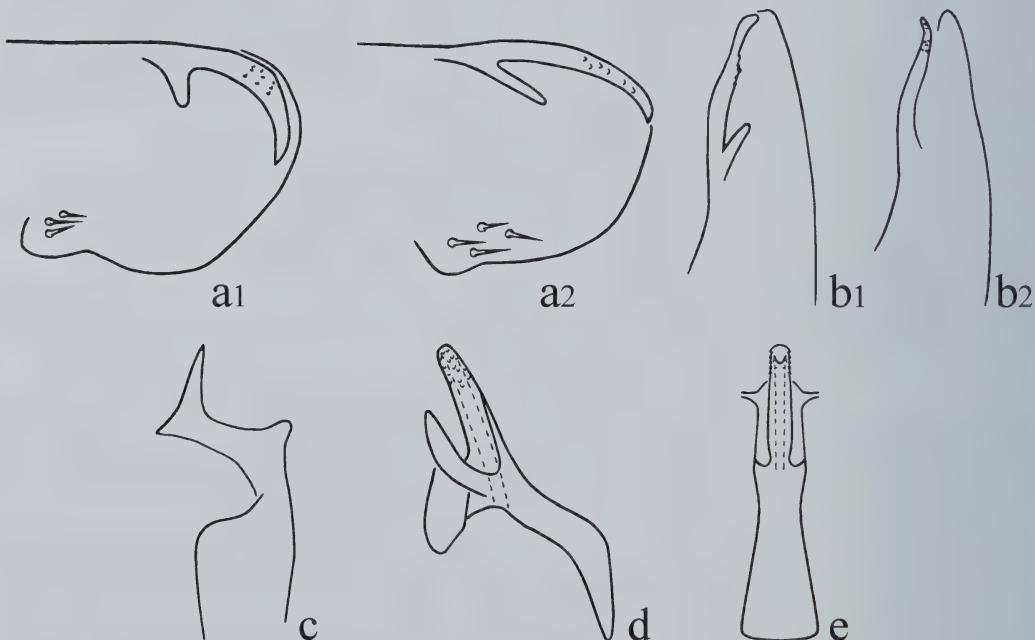


Figure 182. *E. unca* (Knoll). a1–b2 – variation of shape of the pygofer appendage; c – holotype.

183. *Eratoneura dumosa* (Beamer, 1932) (Fig. 183, Plate 10p)

*Erythroneura dumosa* Beamer, 1932a:13

*Erythroneura (Eratoneura) dumosa* Young, 1952b:86

*Eratoneura dumosa* Dietrich & Dmitriev, 2006a:135

**Description:** Length 2.9–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer



apex, distinctly sinuate distally in dorsal view, curved upward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsad, broad in lateral view, round in crossection, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus, orange maculae large.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** *Quercus shumardii*, *Q. alba*, and other species of *Quercus*.

**Notes:** The holotype was collected on 30 III 1929, not on 3 III 1929 as stated in the original publication.

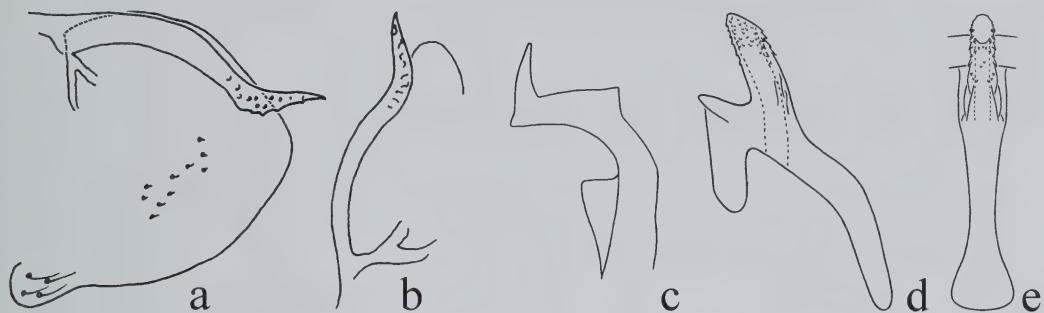


Figure 183. *E. dumosa* (Beamer). a–b – from Hepner (unpublished).

#### 184. *Eratoneura ligata* (McAtee, 1920) (Fig. 184, Plate 10q)

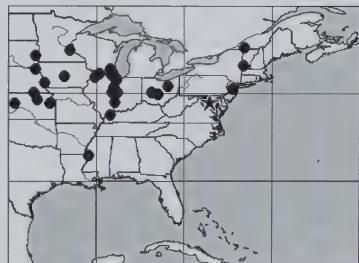
*Erythroneura ligata* McAtee, 1920a:301

*Erythroneura ligata* var. *allecta* McAtee, 1920a:302,  
syn.n. (Plate 10q2)

*Erythroneura ligata* var. *pupillata* McAtee,  
1924e:42, syn.n. (Plate 10q3)

*Erythroneura* (*Eratoneura*) *ligata* Young, 1952b:87

*Eratoneura ligata* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.3 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal view and lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrad near apex, slender in lateral view, round in crossection, denticulate distally, with narrow lateral lobes along entire length of shaft, without processes; apex acuminate in ventral view. Forewings with oblique vittae forming continuous zigzag pattern, without crossbands; meso- and metanotum often with brown medial part.

**Type locality:** Holotype ♂, USA, District of Columbia, Washington D.C., 8 VII 1907 (Palmer), (USNM).

**Distribution:** Central and northeastern USA, southeastern Canada.

**Host plants:** *Quercus alba*, *Q. macrocarpa*.

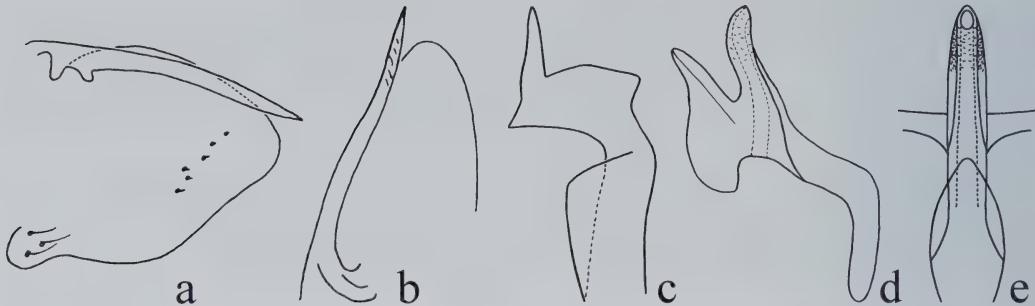


Figure 184. *E. ligata* (McAtee). a–b – from Hepner (unpublished).

185. *Eratoneura contracta* (Beamer, 1931) (Fig. 185, Plate 10r)

*Erythroneura contracta* Beamer, 1931a:130

*Erythroneura (Eratoneura) contracta* Young,  
1952b:86

*Eratoneura contracta* Dietrich & Dmitriev,  
2006a:135



**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, depressed, denticulate distally, with angulate lateral lobes along entire length of shaft, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., 1927, (Beamer), (KSEM).

**Distribution:** Central and northeastern USA.

**Host plants:** *Ulmus rubra*, *U. americana*, *U. alata*, *Ilex decidua*.

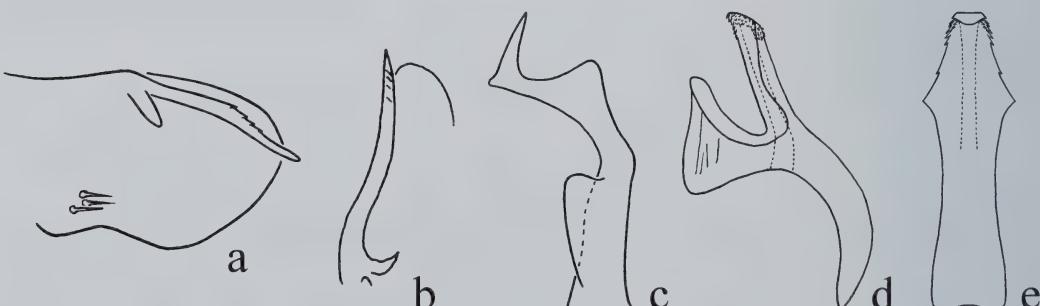


Figure 185. *E. contracta* (Beamer). c – holotype; a – from Hepner (unpublished).

186. *Eratoneura vittata* (Knoll & Auten, 1937) (Fig. 186,

Plate 11a)

*Erythroneura vittata* Knoll & Auten, 1937a:577*Erythroneura (Eratoneura) vittata* Young, 1952b:88*Erythroneura winslowensis* Hepner, 1966a:85, syn.n.*Eratoneura vittata* Dietrich & Dmitriev, 2006a:139

**Description:** Length 2.8–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsad, broad in lateral view, round in crossection, denticulate distally, with large lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Georgia, DeKalb Co., Decatur, 17 IV 1934 (Auten), (OSU).

**Distribution:** Central USA.

**Host plants:** Unknown, probably *Quercus*.

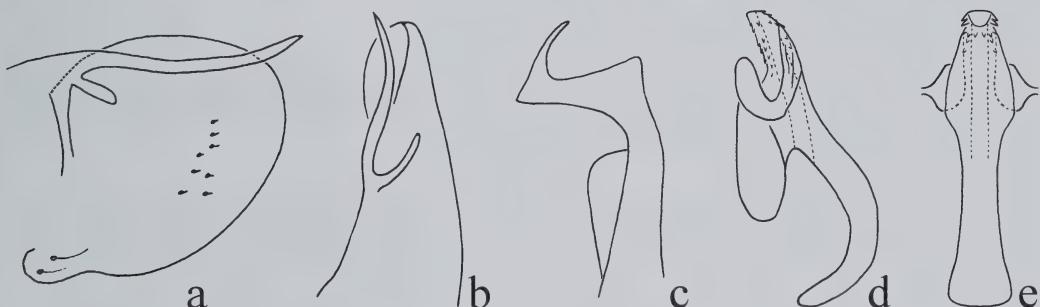
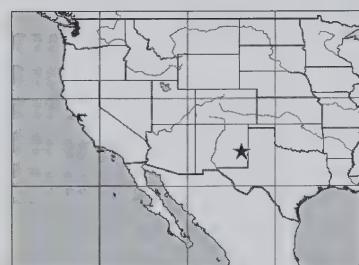


Figure 186. *E. vittata* (Knoll & Auten). c – holotype; a – from Hepner (unpublished).

187. *Eratoneura biramosa* (Beamer, 1941) (Fig. 187, Plate

11b)

*Erythroneura biramosa* Beamer, 1941a:18*Erythroneura (Eratoneura) biramosa* Young, 1952b:86*Eratoneura biramosa* Dietrich & Dmitriev, 2006a:134

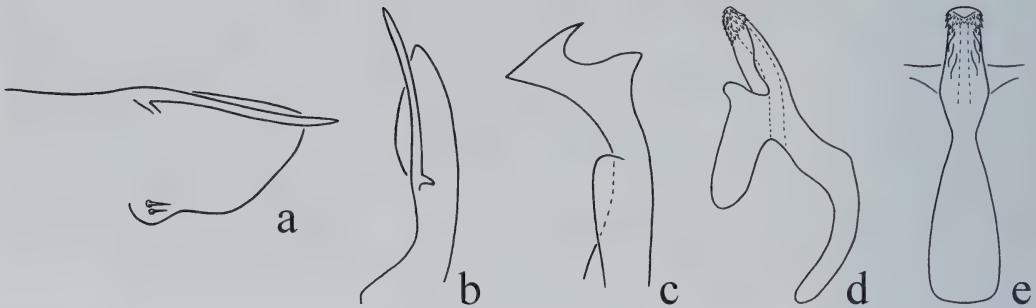
**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, extended beyond 3S posterior margin.

Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, straight in dorsal and lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view, depressed, denticulate distally, with lateral lobes at base, without processes; apex truncate in ventral view. Coloration usual for genus.

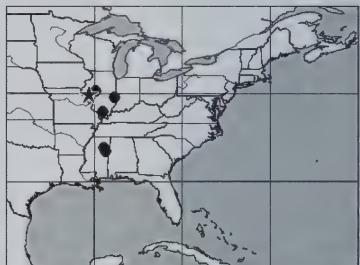
**Type locality:** Holotype ♂, USA, New Mexico, Roosevelt Co., Kenna, 16 VII 1936 (Beamer), (KSEM).

**Distribution:** The species is known only from the type locality in New Mexico.

**Host plants:** Unknown.

Figure 187. *E. biramosa* (Beamer). a–e – paratype.188. *Eratoneura smithi* (Ross, 1956) (Fig. 188, Plate 11c)*Erythroneura smithi* Ross, 1956a:90*Erythroneura wilsoni* Hepner, 1966d:106, *syn.n.**Eratoneura smithi* Dietrich & Dmitriev, 2006a:138

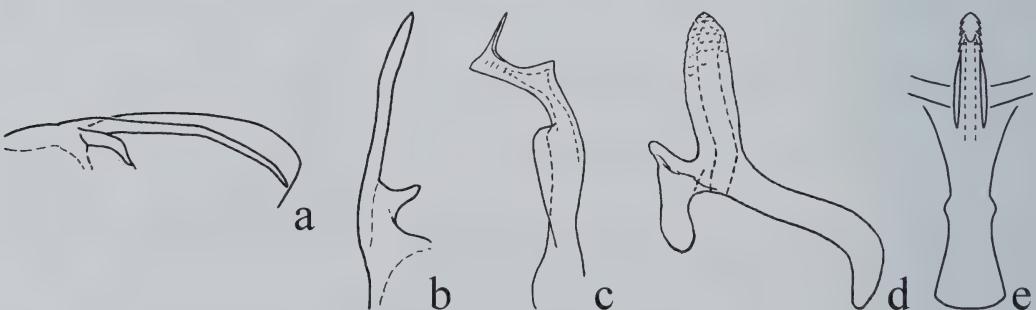
**Description:** Length 2.8 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended to pygofer apex, slightly curved in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, compressed, denticulate distally, with narrow lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.



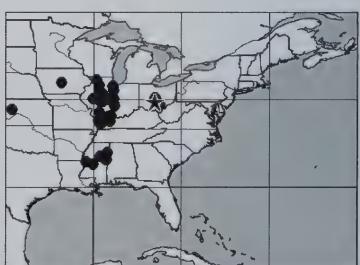
**Type locality:** Holotype ♂, USA, Illinois, Morgan Co., Meredosia, on *Quercus marilandica*, 8 IX 1954 (Ross & Stannard), (INHS).

**Distribution:** Central USA.

**Host plants:** *Quercus marilandica*, *Q. prinus*, *Q. shumardii*.

Figure 188. *E. smithi* (Ross). e – holotype; a–d – from Ross (1956a).189. *Eratoneura prolixa* (Knoll, 1949) (Fig. 189, Plate 11d)*Erythroneura prolixa* Knoll, 1949a:126*Erythroneura (Eratoneura) prolixa* Young, 1952b:88*Eratoneura prolixa* Dietrich & Dmitriev, 2006a:137

**Description:** Length 2.8–3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex,



distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, compressed, denticulate distally, with small lateral lobes at base, without processes; apex acuminate in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Pickaway Co., 20 II, (Caldwell), (OSU).

**Distribution:** Central USA.

**Host plants:** *Quercus michauxii*, *Q. macrocarpa*, *Q. lyrata*, *Q. muehlenbergii*, and other species of *Quercus*.

**Notes:** The holotype was collected in Pickaway Co., on 20 II, by Caldwell, not in Hocking Co., on 5 V, by Knull as stated in the original publication.

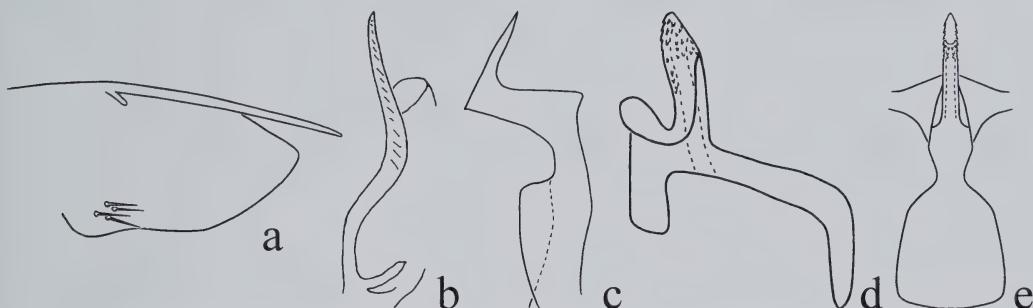


Figure 189. *E. prolixa* (Knoll). c – holotype; b – from Hepner (unpublished).

#### 190. *Eratoneura teres* (Beamer, 1931) (Fig. 190, Plate 11e)

*Erythroneura teres* Beamer, 1931c:268

*Erythroneura (Eratoneura) teres* Young, 1952b:88

*Erythroneura alevra* Ross, 1956a:89, syn.n.

*Erythroneura bicurvata* Hepner, 1973a:184, syn.n.

*Eratoneura teres* Dietrich & Dmitriev, 2006a:138



**Description:** Length 2.8–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, strongly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** ? *Carya glabra*.

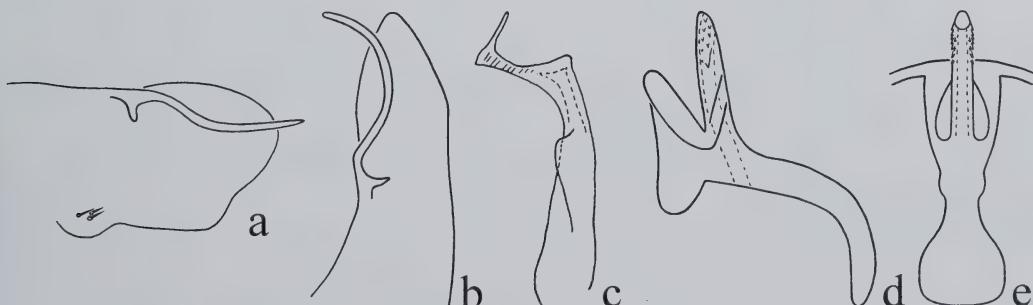


Figure 190. *E. teres* (Beamer). c – from Ross (1956a).

**191. *Eratoneura amethica* (Ross, 1957) (Fig. 191, Plate 11f)**

*Erythroneura amethica* Ross, 1957a:186  
*Eratoneura amethica* Dietrich & Dmitriev,  
 2006a:134

**Description:** Length 2.9–3.2 mm. Forewing outer apical cell about 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, round in cross-section, denticulate distally; without lateral lobes or processes; apex truncate in ventral view. Mesonotum entirely dark brown; forewing with 3 narrow red crossbands.

**Type locality:** Holotype ♂, USA, Illinois, Gallatin Co., Shawneetown, on *Quercus imbricaria*, 14 VII 1948 (Mills & Ross), (INHS).

**Distribution:** Illinois.

**Host plants:** *Quercus imbricaria*.

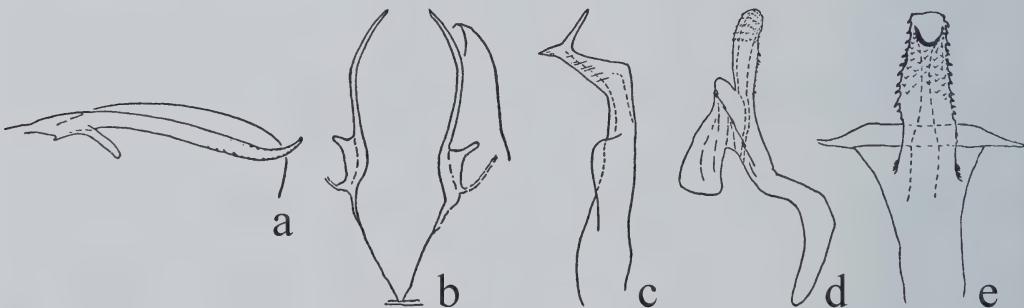


Figure 191. *E. amethica* (Ross). a-d – from Ross (1957a); e – from Ross (1958a).

**192. *Eratoneura tenuitas* (Knoll, 1954) (Fig. 192, Plate 11g)**

*Erythroneura tenuitas* Knoll, 1954b:173  
*Erythroneura norica* Ross, 1956a:88, syn.n.  
*Erythroneura pitrei* Hepner, 1973a:184, syn.n.  
*Eratoneura tenuitas* Dietrich & Dmitriev, 2006a:138

**Description:** Length 2.8–2.9 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, without small lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Texas, Bastrop Co., Bastrop State Park, 26 III 1950 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** *Quercus marilandica*.



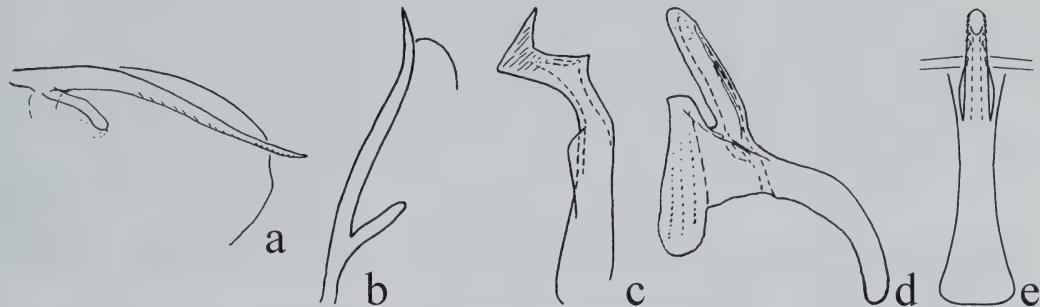


Figure 192. *E. tenuitas* (Knull). e – holotype of *E. norica* Ross; a, c, d – from Ross (1956a); b – from Hepner (unpublished).

193. *Eratoneura haysensis* (Hepner, 1966) (Fig.

193, Plate 11h)

*Erythroneura haysensis* Hepner,  
1966a:79

*Erythroneura paulae* Hepner, 1966a:81,  
syn.n.

*Eratoneura haysensis* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft slender, straight or curved ventrad, round in cross-section, denticulate distally; with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Kansas, Ellis Co., Hays, on *Ulmus sp.*, 28 VIII 1964 (Hepner), (INHS).

**Distribution:** Central USA, south central Canada.

**Host plants:** *Quercus macrocarpa*, *Q. michauxii*, *Q. lyrata*, and other species of *Quercus*.

**Notes:** The holotype was collected on a non host plant species.

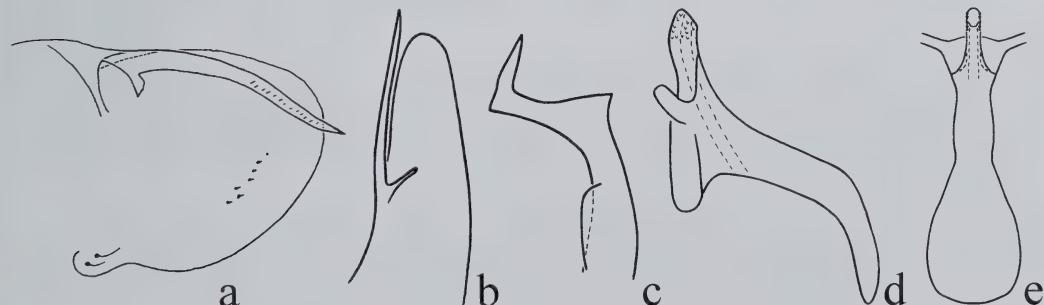


Figure 193. *E. haysensis* (Hepner). b – paratype.

**194. *Eratoneura geronimoi* (Knoll, 1945) (Fig. 194, Plate 11i)**

*Erythroneura geronimoi* Knoll, 1945b:108

*Erythroneura (Eratoneura) geronimoi* Young, 1952b:88

*Eratoneura geronimoi* Dietrich & Dmitriev, 2006a:136



**Description:** Length 3–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, slightly curved in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally; with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Arizona, Cochise Co., Chiricahua Mountains, on *Quercus* sp., 14 IX 1938 (Knoll), (OSU).

**Distribution:** Arizona.

**Host plants:** *Quercus* sp.

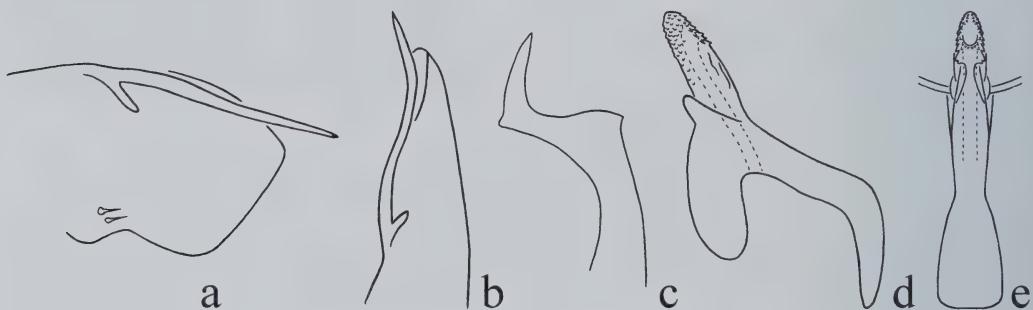


Figure 194. *E. geronimoi* (Knoll). a–e – paratype.

**195. *Eratoneura macra* (Beamer, 1932) (Fig. 195, Plate 11j)**

*Erythroneura macra* Beamer, 1932a:15

*Erythroneura (Eratoneura) macra* Young, 1952b:87

*Eratoneura macra* Dietrich & Dmitriev, 2006a:136



**Description:** Length 2.9–3.2 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe angulate; appendage simple, extended beyond pygofer apex, distinctly sinuate in dorsal view, straight in lateral view, widest at base. Second point of style apex very short, toothlike; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally; with lateral lobes at base, without processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Illinois, Johnson Co., 30 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Salix bebbiana*, *Acer saccharum*, and other species of *Salix* and *Acer*.

**Notes:** The holotype was collected on 30 III 1929, not on 3 III 1929 as stated in the original publication.

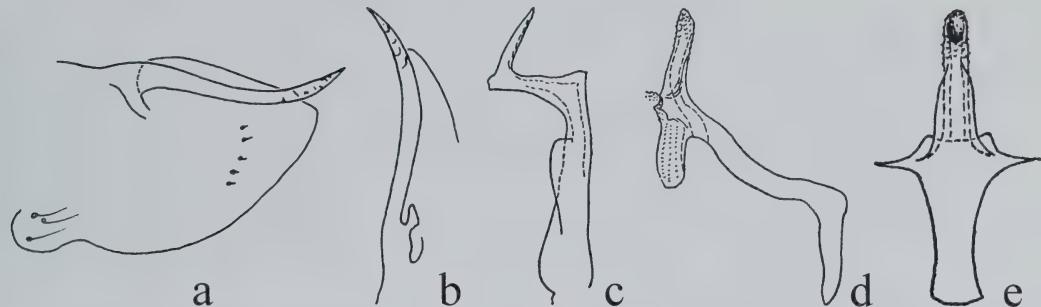


Figure 195. *E. macra* (Beamer). a–b – from Hepner (unpublished); c–e – from Ross (1958a).

196. *Eratoneura socia* (Knoll, 1954) (Fig. 196, Plate 11k)

*Erythroneura socia* Knoll, 1954b:171

*Erythroneura deformata* Hepner, 1966a:85, **syn.n.**

*Erythroneura parisensis* Hepner, 1972a:431, **syn.n.**

*Eratoneura socia* Dietrich & Dmitriev, 2006a:138



**Description:** Length 3–3.1 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended to pygofer apex, distinctly sinuate in dorsal view, curved downward in lateral view, widest at base, denticulate. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrad, slender in lateral view, round in cross-section, denticulate distally; without lateral lobes or processes; apex blunt in ventral view. Coloration usual for genus.

**Type locality:** Holotype ♂, USA, Ohio, Hocking Co., 12 IV 1945 (Knoll), (OSU).

**Distribution:** Central USA.

**Host plants:** Unknown.

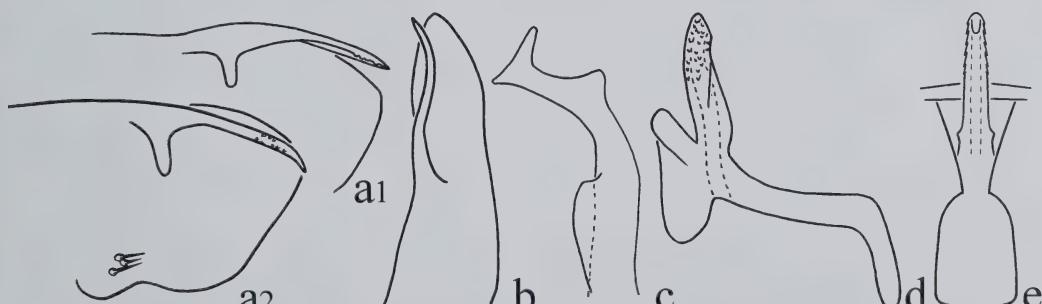


Figure 196. *E. socia* (Knoll). a1–a2 – variation of shape of pygofer appendage; a1 – holotype; c–d – paratype.

**197. *Eratoneura accola* (McAtee, 1920) (Fig. 197, Plate 11)**

*Erythroneura maculata* var. *accola* McAtee,  
1920a:299

*Erythroneura accola* Beamer, 1931d:289

*Erythroneura (Eratoneura) accola* Young, 1952b:86

*Erythroneura starkvillensis* Hepner, 1966d:103,  
**syn.n.**

*Eratoneura accola* Dietrich & Dmitriev, 2006a:134



**Description:** Length 3.1–3.3 mm. Forewing outer apical cell elongate, more than 2X as long as wide. 2S abdominal apodemes large, broad, reaching 3S posterior margin. Pygofer lobe rounded; appendage simple, extended beyond pygofer apex, straight in dorsal view, curved downward in lateral view, widest at base. Second point of style apex very short, toothlike; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, round in cross-section, denticulate distally, without lateral lobes or processes; apex blunt in ventral view. Crown, pro- and mesonotum with red median stripe; clavus with red spot near apex.

**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Plummers Island, 21 XII 1913 (McAtee), (USNM); “Allotype” by Beamer ♀, Illinois, Gallatin Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central or eastern USA.

**Host plants:** *Quercus bicolor*, *Q. falcata*, *Q. macrocarpa*, and other species of *Quercus*.

**Notes:** The holotype could not be located and was not studied.

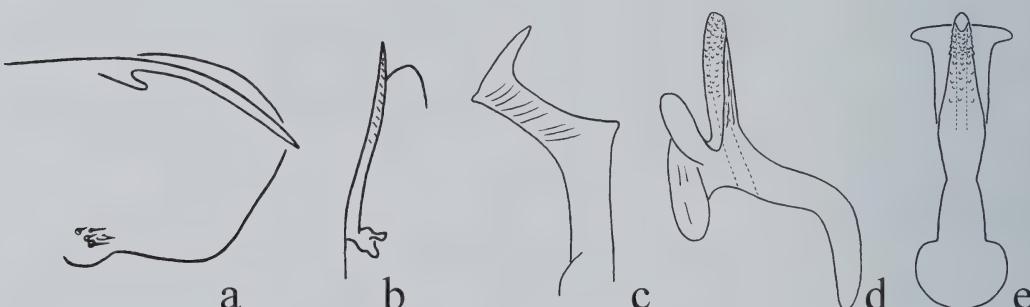


Figure 197. *E. accola* (McAtee).

## ACKNOWLEDGMENTS

For lending specimens, we are grateful to Norman Penny (California Academy of Sciences), K.G.A. Hamilton (Canadian National Collection, Ottawa), Boris Kondratieff (Colorado State University), Richard Brown (Mississippi State University), Stuart McKamey (National Museum of Natural History, Washington), Luciana Musetti and Creighton Freeman (Ohio State University), and Zachary Falin (University of Kansas). Stuart McKamey kindly provided access to his Leafhoppers of the World Database, which included much of the no-

menclatural information incorporated into our Erythroneurini database. Unpublished drawings by L.W. Hepner included in this work are used with permission of the Mississippi Entomological Museum. Other previously published drawings reproduced in this work are in the public domain. Roland Muehlethaler and Dora Pombo provided constructive criticism that greatly improved the manuscript. This work was supported in part by NSF grants DEB0315373 and DEB050529679, and Hatch award ILLU-875-361 to CHD.

## REFERENCES

Baker, C.F. 1903d. New Typhlocybini. *Invertebrata Pacifica*. **1**: 5–9.

Baker, C.F. 1925b. Nomenclatorial notes on the Jassoidea, IV. *Philippine J. Sci.* **27**: 537.

Beamer, R.H. 1927a. New species of *Erythroneura* (Homoptera: Cicadellidae). *Canadian Entomologist*. **59**: 30–31.

Beamer, R.H. 1929b. *Erythroneura* (Homoptera, Cicadellidae) from the Southwest. *Ann. Entomol. Soc. America*. **22**(1): 115–129.

Beamer, R.H. 1930a. Two *Erythroneura* (grape leaf hoppers) damaging apple in Kansas. *J. Kansas Entomol. Soc.* **3**(2): 49–50.

Beamer, R.H. 1931a. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **63**: 127–135.

Beamer, R.H. 1931b. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **63**: 240–244.

Beamer, R.H. 1931c. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **63**: 268–270.

Beamer, R.H. 1931d. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **63**: 285–289.

Beamer, R.H. 1932a. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 12–17.

Beamer, R.H. 1932b. *Erythroneura* collected on apple with description of a new species. *J. Kansas Entomol. Soc.* **5**(2): 62–64.

Beamer, R.H. 1932c. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 45–48.

Beamer, R.H. 1932d. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 69–72.

Beamer, R.H. 1932e. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 82–88.

Beamer, R.H. 1932f. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 134–144.

Beamer, R.H. 1932g. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 158–162.

Beamer, R.H. 1932h. Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*. **64**: 174–181, 3 pl.

Beamer, R.H. 1941a. Two new species of *Erythroneura* (Homoptera – Cicadellidae). *J. Kansas Entomol. Soc.* **14**(1): 18–19.

DeLong, D.M. 1916a. The leafhoppers or Jassoidea of Tennessee. *Bull. Tennessee St. Board Entomol.* **5**(2:17): 1–113.

DeLong, D.M. 1918b. Additional records of Tennessee Cicadellidae (Hemiptera-Homoptera). *Ohio J. Sci.* **18**: 233–242.

DeLong, D.M., Caldwell, J.S. 1937c. Check list of the Cicadellidae (Homoptera) of America, north of Mexico. Ohio: State University. IV+93 p.

Dietrich, C.H., Dmitriev, D.A. 2006a. Review of the New World genera of the leafhopper tribe Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). *Bull. Illinois Natur. Hist. Surv.* **37**(5): I–IV, 119–190.

Dietrich, C.H., Dmitriev, D.A. 2007a. Revision of the New World leafhopper genus *Neozygina* Dietrich & Dmitriev (Hemiptera: Cicadellidae: Typhlocybinae: Erythroneurini). *Zootaxa*. **1475**: 27–42.

Dietrich, C.H., Dmitriev, D.A. 2008a. Review of the species of New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). II. Genus *Zygina*. *Bull. Illinois Natur. Hist. Surv.* **38**(3): I–IV, 129–176.

Dmitriev, D.A. 2006a. 3I, a new program for creating Internet-accessible interactive keys and taxonomic databases and its application for taxonomy of Cicadina (Homoptera). *Rus. Entomol. J.* **15**(3): 263–268.

Dmitriev, D.A., Dietrich, C.H. 2003 onward, Web-site: Erythroneurini database. [Http://ctap.inhs.uiuc.edu/dmitriev/](http://ctap.inhs.uiuc.edu/dmitriev/)

Dmitriev, D.A., Dietrich, C.H. 2006a. Nomenclatural changes and notes in the tribe Erythroneurini (Homoptera: Cicadellidae: Typhlocybinae). *Zootaxa*. **1120**: 35–39.

Dmitriev, D.A., Dietrich, C.H. 2007a. Review of the New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). I. Genera *Erythroneura*, *Erasmoneura*, *Rossmoneura*, and *Hymetta*. *Bull. Illinois Natur. Hist. Surv.* **38**(2): I–V, 59–128.

Dmitriev, D.A., Dietrich, C.H. 2008a. Rapid taxonomic revisions using Internet-integrated relational databases: an example using *Erythroneura* (sensu lato). *Bull. Insectology*. **61**(1): 113–114.

Dmitriev, D.A., Dietrich, C.H. 2009a. Review of the New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). III. Genus *Erythridula*. *Bull. Illinois Natur. Hist. Surv.* **38**(6): I–IV, 215–334.

Fattig, P.W. 1955a. The Cicadellidae or leaf hoppers of Georgia. *Bull. Emory Univ. Mus.* **11**: 1–68.

Ferrari, P.M. 1882a. Cicadaria Agri Ligustici. *Ann. Mus. Genova*. **18**: 75–165.

Fitch, A. 1851a. Catalogue with references and descriptions of the insects collected and arranged for the State Cabinet of Natural History. *Ann. Rpt. State Cab. Natur. Hist.* **4**: 43–69.

Gillette, C.P. 1898a. American leaf-hoppers of the subfamily Typhlocybinae. *Proc. U.S. Nat. Mus.* **20**(1138): 709–773.

Glover, T. 1877a. Homoptera. In Report of the entomologist and curator of the museum. *Commr. Agr. Rpt.* **1876**: 17–46.

Hamilton, K.G.A. 1985a. Leafhoppers of ornamental and fruit trees in Canada. *Agr. Canada Publ.* **1779E**: 1–71.

Hepner, L.W. 1966a. Twenty species of *Erythroneura* related to *E. bigemina* (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **39**(1): 78–89.

Hepner, L.W. 1966b. New species of *Erythroneura* related to *lenta* (Homoptera: Cicadellidae). *Florida Entomologist*. **49**(2): 95–100.

Hepner, L.W. 1966c. New species of *Erythroneura* (Cicadellidae) related to *inepta*. *J. Georgia Entomol. Soc.* **1**(4): 1–5.

Hepner, L.W. 1966d. New species of *Erythroneura* related to *campora* (Homoptera: Cicadellidae). *Florida Entomologist*. **49**(2): 101–106.

Hepner, L.W. 1967a. New species of *Erythroneura* related to *E. dira* (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **40**(1): 17–24.

Hepner, L.W. 1967b. New species of *Erythroneura* (Homoptera: Cicadellidae). *Entomol. News*. **78**(3): 59–73.

Hepner, L.W. 1969a. New species of *Erythroneura* from oaks and hickories (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **42**(2): 126–133.

Hepner, L.W. 1972a. Five new species of *Erythroneura* (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **45**(4): 430–433.

Hepner, L.W. 1972b. A new species of *Erythroneura* (Homoptera: Cicadellidae) and some characteristics of the nymph. *J. Georgia Entomol. Soc.* **7**(3): 216–218.

Hepner, L.W. 1972c. New species of *Erythroneura* (Homoptera: Cicadellidae). *Florida Entomologist*. **55**(4): 267–272.

Hepner, L.W. 1973a. New species of *Erythroneura* (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **46**(2): 184–186.

Hepner, L.W. 1975a. New species of *Erythroneura* (Homoptera: Cicadellidae). *J. Kansas Entomol. Soc.* **48**(1): 4–7.

Herrick-Schäffer, G.A.W. 1838c. *Jassus preysleri*, *Bythoscopus microcephalus*, *Typhlocyba quercus*, *T. nitidula*, *T. albostriella*, *T. adspersa*, *T. scutellaris*, *T. viridula*, *T. cruenta*, *Tettigonia nigrolineata*, *Jassus lineatus*, *Eupelix spathulata*, *Jassus 6-notatus*. *Deutschlands Insecten*. **164**: 7–21.

[ICZN] (1999). International code of zoological nomenclature. London: Intern. Trust Zool. Nomenclature. 4th ed. XXIX+306 p.

Johnson, D.M. 1935a. Leafhoppers of Ohio. Subfamily Typhlocybinae (Homoptera: Cicadellidae). *Bull. Ohio Biol. Surv.* **31**: 39–122.

Knull, D.J. 1944b. Nomenclatorial notes on Cicadellidae. *Ann. Entomol. Soc. America*. **37**: 123.

Knull, D.J. 1945b. Eleven new leafhoppers with notes on others (Homoptera: Cicadellidae). *Ohio J. Sci.* **45**(3): 103–110.

Knull, D.J. 1949a. New leafhoppers from the United States (Homoptera: Cicadellidae). *Ohio J. Sci.* **49**: 119–126.

Knull, D.J. 1951a. Additions to list of Ohio leafhoppers (Homoptera: Cicadellidae). *Ohio J. Sci.* **51**: 16.

Knull, D.J. 1951b. Sixteen new leafhoppers and notes (Homoptera: Cicadellidae). *Ohio J. Sci.* **51**(4): 169–178.

Knull, D.J. 1954b. New *Erythroneura* (*Eratoneura*) of the *dira* group with notes (Homoptera, Cicadellidae). *Ohio J. Sci.* **54**(3): 170–174.

Knull, D.J. 1955a. Some new texan *Erythroneura* (*Eratoneura*) of the *dira* group (Homoptera: Cicadellidae). *Ohio J. Sci.* **55**(4): 245–246.

Knull, D.J., Auten, M. 1937a. Some *Erythroneura* of the *maculata* group from Decatur, Georgia (Homoptera: Cicadellidae). *Ann. Entomol. Soc. America*. **30**: 572–578.

Knull, D.J., Auten, M. 1938b. Omissions and errors. *Ann. Entomol. Soc. America*. **31**: 651.

Lawson, P.B. 1920a. The Cicadellidae of Kansas. *Kans. Univ. Sci. Bull.* **12**: 5–306.

Leonard, M.D. 1928a. Families Cercopidae, Membracidae, and Cicadellidae. In A list of the insects of New York, with a list of the spiders and certain other allied groups. *Mem. N.Y. (Cornel) Agr. Expt. Sta.* **101**: 1–1121.

Maw, H.E.L., Foottit, R.G., Hamilton, K.G.A., Scudder, G.G.E. 2000a. Checklist of the Hemiptera of Canada and Alaska. Canada, Ontario, Ottawa: NRC Research Press. VIII+220 p.

McAtee, W.L. 1920a. Key to the Nearctic species and varieties of *Erythroneura* (Homoptera; Eupterygidae). *Trans. American Entomol. Soc.* **46**: 267–321, pl. XII.

McAtee, W.L. 1924c. Notes on eupterygid leafhoppers with descriptions of a few forms (Homoptera). *Florida Entomologist*. **8**(3–4): 33–39.

McAtee, W.L. 1924d. Records of species of the genus *Erythroneura* (Homoptera; Eupterygidae) with descriptions of new forms. *Proc. Biol. Soc. Washington*. **37**: 131–134.

McAtee, W.L. 1924e. Notes on a collection of *Erythroneura* and *Hymetta* (Eupterygidae) chiefly from Illinois, with descriptions of new forms. *Bull. Illinois Natur. Hist. Surv.* **15**(2): 39–44.

McAtee, W.L. 1926c. Notes on Homoptera from Illinois, with descriptions of new forms, chiefly Eupteryginae. *Bull. Illinois Natur. Hist. Surv.* **16**(3): 127–136.

Metcalf, Z.P. 1968a. General catalogue of the Homoptera. VI. Cicadelloidea. 17. Cicadellidae. Washington: US Dept. Agr. VII+1513 p.

Nawa, U. 1913a. *Zigina apicalis* Mats. (*Erythroneura apicalis* Nawa). *Insect World.* **17**: 480–486.

Oman, P.W. 1949a. The Nearctic leafhoppers (Homoptera: Cicadellidae). A generic classification and check list. *Mem. Washington Ent. Soc.* **3**: 1–253.

Ribaut, H. 1936b. Homoptères Auchénorhynques. I. (Typhlocybidae). Faune de France. Paris: Lechevalier. 31: III+231 p.

Robinson, W. 1924a. Some new species of *Erythroneura* (Homoptera, Cicadellidae). *Canadian Entomologist*. **56**(3): 58–62.

Robinson, W. 1924b. Additional new species of *Erythroneura* (Homoptera, Cicadellidae). *Canadian Entomologist*. **56**: 154–157.

Robinson, W. 1924c. Additional new species of *Erythroneura* (Homoptera, Cicadellidae). *Canadian Entomologist*. **56**: 290–292.

Robinson, W. 1926a. The genus *Erythroneura* north of Mexico (Homoptera, Cicadellidae). *Kansas Univ. Sci. Bull.* **16**(3): 101–155.

Ross, H.H. 1953b. Polyphyletic origin of the leafhopper fauna of *Ilex decidua*. *Trans. Illinois Acad. Sci.* **16**: 186–192.

Ross, H.H. 1956a. New nearctic species of *Erythroneura* (Homoptera: Cicadellidae). *Entomol. News.* **67**(4): 85–90.

Ross, H.H. 1957a. New oak-inhabiting species of *Erythroneura* from Illinois (Homoptera, Cicadellidae). *Entomol. News.* **68**: 183-190.

Ross, H.H. 1957c. Principles of natural coexistence indicated by leafhopper populations. *Evolution.* **11**(2): 113-129.

Ross, H.H. 1958a. Evidence suggesting a hybrid origin for certain leafhopper species. *Evolution.* **12**(3): 337-346.

Ross, H.H. 1958c. Further comments on niches and natural coexistence. *Evolution.* **12**(11): 112-113.

Ross, H.H., DeLong, D.M. 1950a. New species of *Erythroneura* of the *maculata* group (Homoptera: Cicadellidae). *Ohio J. Sci.* **50**(6): 291-296.

Ross, H.H., DeLong, D.M. 1953a. Biological and taxonomic notes on *Erythroneura* (Homoptera, Cicadellidae). *Ohio J. Sci.* **53**(2): 77-90.

Say, T. 1825a. Descriptions of new Hemipterous insects collected in the expedition to the Rocky Mountains, performed by order of Mr. Calhoun, Secretary of War, under command of Major Long. *J. Acad. Natur. Sci. Philadelphia.* **4**: 307-345.

Sinha, R.N., Beamer, R.H. 1954a. A new species of *Erythroneura* (Homoptera: Cicadellidae) from Kansas. *J. Kansas Entomol. Soc.* **27**(3): 105.

Tollin, C. 1851a. Ueber Kleinzippen, besonders über die Gattung *Typhlocyba* nebst Beschreibung einiger neuen Arten. *Stettin. Ent. Ztg.* **12**: 67-74.

Van Duzee, E.P. 1916a. Suborder Homoptera Latr. 1810. Section Auchenorrhyncha A. & S. 1843. Check list of Hemiptera (excepting the Aphididae, Aleurodidae, and Coccidae) of America north of Mexico. **1916**: I-XI, 1-111.

Van Duzee, E.P. 1917b. Catalogue of the Hemiptera of America north of Mexico excepting the Aphididae, Coccidae, and Aleurodidae. *Tech. Bull. California Agr. Expt. Sta.* **2**: I-XIV, 1-902.

Van Duzee, E.P. 1924a. The genus *Erythroneura* in California (Homoptera). *Proc. California Acad. Sci.* (4). **13**(13): 231-236.

Walsh, B.D. 1862a. Fire blight. Two new foes of the apple and pear. *Prairie Farmer.* (N.S.). **10**: 147-149.

Wirtner, P.M. 1904a. A preliminary list of the Hemiptera of western Pennsylvania. *Ann. Carnegie Mus.* **3**: 183-232.

Young, D.A. 1952b. A reclassification of Western Hemisphere Typhlocybinae (Homoptera, Cicadellidae). *Univ. Kansas Sci. Bull.* **35**(1:1): 3-217.

## APPENDIX I

Collections and Studied Material<sup>1</sup>

#	Species	Museums							
		INHS	OSU	KSEM	MEM	CNC	USNM	CAS	CSUC
1	<i>E. dira</i> (Beamer)	45	127	55	73	113	6		
2	<i>E. gillettei</i> (Beamer)	1		11	3		1		
3	<i>E. imbricariae</i> (Ross & DeLong)	44	2		2				
4	<i>E. lamucata</i> (Ross & DeLong)	30			3				
5	<i>E. maculata</i> (Gillette)	78	44	18	88	12	4		
6	<i>E. eversi</i> (Ross & DeLong)	16	3		22	7			
7	<i>E. noncuspidis</i> (Beamer)	7	4	56	75		4		
8	<i>E. teshi</i> (Hepner)	1			22		2		
9	<i>E. osborni</i> (DeLong)	85	45	27	365	5	3		
10	<i>E. sandersoni</i> (Ross)	3			2				
11	<i>E. crinita</i> (Beamer)	1	3	10	3		1		
12	<i>E. andersoni</i> (Beamer)	1		82	3				
13	<i>E. paraesculi</i> (Knull)	1		27	2	2			
14	<i>E. tammina</i> (Ross & DeLong)	3			655				
15	<i>E. texana</i> (Beamer)			5					
16	<i>E. separata</i> (Beamer)	37	28	19	60	4	3		
17	<i>E. curvata</i> (Beamer)	221	49	74	554				
18	<i>E. restricta</i> (Beamer)	120	114	16	282	48	4		
19	<i>E. impar</i> (Beamer)	26		55	157		2		
20	<i>E. carmini</i> (Beamer)	233	210	99	3834	112	2		
21	<i>E. forfex</i> (Beamer)	41	20	2	12		1		
22	<i>E. linea</i> (Beamer)	1	2	11	193	8			
23	<i>E. rangifer</i> (Ross & DeLong)	4	5		18				
24	<i>E. dimidiata</i> (Knull)	4	6		43				
25	<i>E. sanctaerosae</i> (Hepner)	1					1		
26	<i>E. betulae</i> sp.n.	1			2	1			
27	<i>E. concisa</i> (Beamer)	25	50	35	59	2	7		
28	<i>E. spala</i> (Ross & DeLong)	73			45				
29	<i>E. harpola</i> (Ross)	3			3	47			
30	<i>E. minor</i> (Beamer)	149	15	5	304	22	1		
31	<i>E. aesculi</i> (Beamer)	1		97	243		8		
32	<i>E. bifida</i> (Beamer)	1		37	27				
33	<i>E. aculeata</i> (Beamer)	7	15	7	65		2		
34	<i>E. lusoria</i> (Van Duzee)	3	4	114	4	6		22	
35	<i>E. pyra</i> (McAtee)	56	87	2	11		1		
36	<i>E. millsi</i> (Ross & DeLong)	5	12		1624	1			
37	<i>E. longifurca</i> (Hepner)	1			2		3		
38	<i>E. manus</i> (Beamer)	47	21	8	258		4		
39	<i>E. staffordi</i> (Hepner)	1			1				
40	<i>E. ardens</i> (McAtee)	165	194	30	425	8	2		1
41	<i>E. uvaldeana</i> (Knull)		23	2					
42	<i>E. inepta</i> (Beamer)	11	16	9	792		8		
43	<i>E. firma</i> (Beamer)	111	11	9	938	1	14		
44	<i>E. bispinosa</i> (Beamer)	51	47	51	697	4	4		
45	<i>E. hyalina</i> (Knull & Auten)		1						
46	<i>E. harnedi</i> (Hepner)	14			4		2		
47	<i>E. unica</i> (Beamer)	92	32	12	246	1	1		
48	<i>E. mira</i> (Beamer)	39	62	44	389		8		
49	<i>E. facota</i> (Beamer)			17	1				
50	<i>E. cristata</i> (Knull)	1	1		98	25	2		
51	<i>E. mcateeai</i> sp.n.	141			46				
52	<i>E. ungulata</i> (Beamer)	11	2	8	68				
53	<i>E. distincta</i> (Knull & Auten)	2	1		10		4		
54	<i>E. spinea</i> (Knull)		2		6				
55	<i>E. rotunda</i> (Beamer)	172	30	7	5				
56	<i>E. nigriventer</i> (Beamer)	1	2	6	32		1		
57	<i>E. stupkaorum</i> (Knull)	2	14		2				
58	<i>E. usitata</i> (Beamer)	274	43	14	1186		1		
59	<i>E. incondita</i> (Beamer)	31	2	6	4				
60	<i>E. ingrata</i> (Beamer)	58	10	7	84				
61	<i>E. arenosa</i> (Ross & DeLong)	32	1						
62	<i>E. uncinata</i> (Beamer)	13	17	8	192		2		
63	<i>E. arpegia</i> (Ross)	12			5				
64	<i>E. propria</i> (Beamer)	3	25	36	163		4		

The table shows the number of studied specimens from each collection. See "Material and Methods" for the museum abbreviations.

#	Species	Museums							
		INHS	OSU	KSEM	MEM	CNC	USNM	CAS	CSUC
65	<i>E. brevipes</i> (Beamer)	153	11	29	263	4			
66	<i>E. turgida</i> (Beamer)	71	22	25	361		1		
67	<i>E. delongi</i> (Knoll & Auten)	58	7	6	202	2			
68	<i>E. immota</i> (Beamer)	6		7	353				
69	<i>E. tantilla</i> (Beamer)	21	13	14	49	2	6		
70	<i>E. sorota</i> (Hepner)	1			33		2		
71	<i>E. solita</i> (Beamer)	15	2	7	1	7			
72	<i>E. knullae</i> (Ross)	57	4		400	1	6		
73	<i>E. omani</i> (Beamer)	36	2	117	12		10		
74	<i>E. mimica</i> (Ross)	4			2	2			
75	<i>E. sancta</i> (Beamer)	12	4	13	25	2			
76	<i>E. inksana</i> (Knoll)	8	40		1				
77	<i>E. alloplana</i> (Ross)	7			94				
78	<i>E. parva</i> (Beamer)	37	37	24	1216		1		
79	<i>E. mirifica</i> (Beamer)	48	23	7	31		7		
80	<i>E. abjecta</i> (Beamer)	6	51	9	5	30	7		
81	<i>E. hartii</i> (Gillette)	100	92	43	4	5			2
82	<i>E. misera</i> (Beamer)	3	3	6	271	173	1		
83	<i>E. nevadensis</i> (Beamer)				17		2		
84	<i>E. lata</i> (Beamer)	8	32	13	94		3		
85	<i>E. levecki</i> (Hepner)	1			19		1		
86	<i>E. tantula</i> (Knoll)	1	1		1				
87	<i>E. beeri</i> (Hepner)	5			1	2		2	
88	<i>E. accita</i> (Knoll)			3					
89	<i>E. cera</i> (Hepner)	1				1			
90	<i>E. rubraza</i> (Robinson)				10				
91	<i>E. affinis</i> (Fitch)	109	82	10	1249	9	4		
92	<i>E. stephensi</i> (Beamer)	3	11	54	77				
93	<i>E. clavipes</i> (Beamer)	14	13	12	213				
94	<i>E. retusa</i> (Beamer)	1	2	19	8		4		
95	<i>E. hymac</i> (Robinson)	22	9	29	7				
96	<i>E. externa</i> (Beamer)	12	10	8	16				
97	<i>E. brooki</i> (Hepner)	1			1		2		
98	<i>E. longa</i> (Knoll)	19	3		1767				
99	<i>E. sebringensis</i> (Hepner)	1			71		3		
100	<i>E. parvipes</i> (Beamer)	17	2	11	35				
101	<i>E. calamitosa</i> (Beamer)	29	22	24	123		3		
102	<i>E. richardsi</i> (Ross)	27			25		2		
103	<i>E. marilandicae</i> (Ross)	26			55				
104	<i>E. opulenta</i> (Beamer)				64	3	2		
105	<i>E. era</i> (McAtee)	6	2	30	139		5		
106	<i>E. fergusoni</i> (Hepner)	2			33		1		
107	<i>E. ellisi</i> (Hepner)	2			309		4		
108	<i>E. acantha</i> (Ross & DeLong)	46	1		2347				
109	<i>E. interna</i> (Beamer)	8	15	8	45	1			
110	<i>E. robusta</i> (Knoll)	1	17		12		1		
111	<i>E. metopia</i> (Ross)	37			3				
112	<i>E. patris</i> (Ross & DeLong)	16			1955	10			
113	<i>E. econa</i> (Ross)	9			1				
114	<i>E. alicia</i> (Ross)	15			2				
115	<i>E. zioni</i> (Beamer)			11					
116	<i>E. greeni</i> (Hepner)	1			5		1		
117	<i>E. lenta</i> (Beamer)	50	48	16	347	41	3		
118	<i>E. gilesi</i> (Hepner)	7			2386		13		
119	<i>E. maga</i> (Knoll)	14	22		1035				
120	<i>E. igella</i> (Ross & DeLong)	5	16		605		3		
121	<i>E. stannardi</i> (Hepner)	1			12		3		
122	<i>E. trautmanae</i> (Knoll)	73	21		7	56			
123	<i>E. knighti</i> (Beamer)	77	40	24	203				
124	<i>E. triangulata</i> (Beamer)	47	8	16	607	1	1		
125	<i>E. corylorubra</i> (Knoll)	6	18		7				
126	<i>E. fulleri</i> (Hepner)	10			60		1		
127	<i>E. rubranotata</i> (Beamer)	11	4	62	1				
128	<i>E. citrosa</i> (Ross)	11	2		3				
129	<i>E. clara</i> (Beamer)	3	7	9	118		2		
130	<i>E. nimia</i> (Knoll)	30	1		74		6		
131	<i>E. flexibilis</i> (Knoll)	50	12		20	3			
132	<i>E. certa</i> (Beamer)	22	56	7	225	24			
133	<i>E. direpta</i> (Knoll)	22	71		42		2		
134	<i>E. tersa</i> (Knoll)			29	217				
135	<i>E. luculenta</i> (Knoll)			9					

#	Species	Museums							
		INHS	OSU	KSEM	MEM	CNC	USNM	CAS	CSUC
136	<i>E. fausta</i> (Knull)	20	7		83				
137	<i>E. bella</i> (McAtee)	81	30	5	75	5	1		
138	<i>E. coxi</i> (Ross & DeLong)	79	1	2	13	50			
139	<i>E. torella</i> (Robinson)	230	33	52	67				
140	<i>E. tumida</i> (Knull)	6	3		4	15			
141	<i>E. glicilla</i> (Ross)	3			5				
142	<i>E. morgani</i> (DeLong)	200	108	77	50				
143	<i>E. arta</i> (Beamer)	492	100	44	2090		6		
144	<i>E. hymettana</i> (Knull)	2	4		23				
145	<i>E. lawsoni</i> (Robinson)	851	317	15	237	14			
146	<i>E. continua</i> (Knull & Auten)		4						
147	<i>E. valida</i> (Knull)		1		9				
148	<i>E. pamela</i> (Hepner)	2			346		6		
149	<i>E. protuma</i> (Ross)	8			2				
150	<i>E. havana</i> (Ross & DeLong)	6			8				
151	<i>E. gemoides</i> (Ross)	66			26		3		
152	<i>E. gemina</i> (McAtee)	83	52	36	2083	22	18		
153	<i>E. malaca</i> (Knull)		22						
154	<i>E. penesica</i> (Beamer)	40	30	17	940	5	4		
155	<i>E. parallela</i> (McAtee)		6	44	8	47	1		
156	<i>E. severini</i> (Knull)		7						
157	<i>E. claroides</i> (Hepner)	2			1		1		
158	<i>E. lunata</i> (McAtee)	29	23	25	163				
159	<i>E. adunca</i> (Beamer)	40	116	54	1695		6		
160	<i>E. curta</i> (Beamer)	18	33	12	358		10		
161	<i>E. ballista</i> (Beamer)	25	9	4	44		1		
162	<i>E. rostrata</i> (Beamer)	6	29	6	56		1		
163	<i>E. penerostrata</i> (Beamer)	8	1	5	137				
164	<i>E. emqua</i> (Ross & DeLong)	3			122				
165	<i>E. trivittata</i> (Robinson)	94	24	5	116	2			
166	<i>E. anseri</i> (Hepner)	2			112		3		
167	<i>E. stoveri</i> (Ross & DeLong)	5	12		558		6		
168	<i>E. campora</i> (Robinson)	365	711	156	1457	72	3		
169	<i>E. spinifera</i> (Beamer)	15	11	14	41	1	3		
170	<i>E. comoides</i> (Ross & DeLong)	5			216				
171	<i>E. confirmata</i> (McAtee)	168	19	10	86		2		
172	<i>E. phellos</i> (Ross & DeLong)	6			113				
173	<i>E. bigemina</i> (McAtee)	14	83	56	1711	1	37		
174	<i>E. mensa</i> (Beamer)	6		12	3				
175	<i>E. basilaris</i> (Say)	359	216	40	796	85	8		5
176	<i>E. micheneri</i> (Hepner)	4	7		4		2		
177	<i>E. lucyae</i> (Hepner)	3			67		6		
178	<i>E. guicei</i> (Hepner)	60			15		2		
179	<i>E. lundi</i> (Hepner)	1			2				
180	<i>E. marra</i> (Beamer)	1	30	4	4	9	2		
181	<i>E. staminea</i> (Knull)		2		861				
182	<i>E. uncia</i> (Knull)		1		111	5			
183	<i>E. dumosa</i> (Beamer)	9	15	12	36	2			
184	<i>E. ligata</i> (McAtee)	73	29	26	5	6	14		
185	<i>E. contracta</i> (Beamer)	134	184	84	1041				
186	<i>E. vittata</i> (Knull & Auten)	5	6						
187	<i>E. biramosa</i> (Beamer)		2	52	1				
188	<i>E. smithi</i> (Ross)	4			6				
189	<i>E. prolixa</i> (Knull)	43	12		392				
190	<i>E. teres</i> (Beamer)	19	15	7	34				
191	<i>E. amethica</i> (Ross)	4			2				
192	<i>E. tenuitas</i> (Knull)	30	1		2				
193	<i>E. haysensis</i> (Hepner)	50	2		90	9	9		
194	<i>E. geronimoi</i> (Knull)		95	2					
195	<i>E. macra</i> (Beamer)	30	6	5	43	107	1		
196	<i>E. socia</i> (Knull)	2	4		4				
197	<i>E. accolata</i> (McAtee)	41	5	20	101		6		

**APPENDIX II****Host Plant Index**

*Acer* sp. .... 107, 162, 184, 185, 234  
*Acer pensylvanicum* ..... 184  
*Acer rubrum* ..... 118  
*Acer saccharum* .. 107, 121, 139, 140, 143, 153,  
     162, 185, 187, 190, 194, 234  
*Acer spicatum*..... 184  
*Aesculus* sp..... 110, 119, 122, 123, 193  
*Aesculus glabra*..... 125, 187, 188  
*Betula* sp..... 116  
*Betula lutea* ..... 119  
*Betula nigra* ..... 141  
*Carpinus* sp. .... 101  
*Carpinus caroliniana* .. 120, 124, 128, 158, 185,  
     192, 193, 198  
*Carya* sp. .... 107, 147, 173, 206, 214  
*Carya aquatica*..... 147, 150  
*Carya carolinae-septentrionalis* ..... 147  
*Carya glabra* ..... 107, 147, 170, 206, 214, 231  
*Carya illinoinensis* ..... 107, 150  
*Carya leiodermis* ..... 107, 173, 206, 214  
*Carya ovalis* ..... 107  
*Carya ovata*.. 107, 147, 150, 170, 173, 175, 206  
*Carya tomentosa* . 107, 147, 170, 173, 206, 214,  
     215, 220  
*Castanea pumila* ..... 108  
*Cercis canadensis* ..... 166, 189  
*Comptonia peregrina* ..... 207  
*Cornus florida* ..... 159  
*Corylus* sp. .... 125  
*Corylus americana*....101, 104, 116, 117, 119,  
     120, 124, 144, 145, 186, 188  
*Crataegus* sp. .... 217  
*Crataegus mollis* ..... 122  
*Cryptomeria japonica* ..... 148  
*Fagus grandifolia*..... 120, 124, 190  
*Hamamelis virginiana* ..... 224  
*Ilex decidua* ..... 132, 216, 221, 226, 228  
*Juglans nigra* ..... 170  
*Malus* sp. .... 152  
*Malus ioensis* ..... 158  
*Malus pumila* ..... 158  
*Myrica cerifera* ..... 213  
*Ostrya caroliniana* ..... 120  
*Ostrya virginiana* 101, 120, 121, 190, 193, 212,  
     224  
*Platanus occidentalis* .. 142, 143, 195, 196, 198,  
     199, 200  
*Prunus lanata* ..... 211  
*Prunus persica* ..... 211  
*Prunus virginiana* ..... 211  
*Quercus* sp.....110, 114, 115, 127, 129, 131,  
     136, 137, 146, 147, 148, 149, 150, 152, 153,  
     154, 155, 156, 157, 161, 165, 167, 168, 169,  
     171, 172, 174, 175, 177, 178, 179, 180, 181,  
     182, 183, 202, 204, 205, 209, 210, 213, 217,  
     225, 227, 229, 231, 233, 234, 236  
*Quercus alba* 113, 115, 127, 134, 135, 136, 157,  
     160, 165, 175, 197, 203, 209, 210, 227  
*Quercus bicolor*..... 151, 156, 174, 236  
*Quercus chapmanii* ..... 146, 166, 169, 176  
*Quercus coccinea* ..... 165, 183  
*Quercus falcata* ... 110, 155, 167, 168, 175, 178,  
     181, 182, 183, 202, 210, 225, 236  
*Quercus imbricaria* .... 102, 134, 145, 172, 175,  
     177, 178, 179, 181, 214, 218, 232  
*Quercus laurifolia* ..... 148, 149, 165, 174, 181  
*Quercus lyrata*.....110, 114, 131, 152, 156, 171,  
     174, 182, 204, 205, 222, 231, 233  
*Quercus macrocarpa*....112, 114, 115, 147, 150,  
     151, 156, 166, 167, 174, 223, 224, 227, 231,  
     233, 236  
*Quercus marilandica*... 127, 137, 146, 147, 155,  
     165, 167, 172, 175, 203, 204, 210, 225, 230,  
     232  
*Quercus michauxii* 110, 114, 130, 131, 231, 233  
*Quercus muehlenbergii* ..... 114, 231  
*Quercus myrtifolia* ..... 146, 169, 176, 217  
*Quercus nigra* .... 147, 148, 149, 152, 168, 174,  
     175, 178, 181, 205, 213, 217  
*Quercus pagoda* .. 114, 155, 168, 171, 174, 175,  
     178, 181, 182, 183, 202, 205, 209, 210, 225  
*Quercus palustris* 148, 151, 152, 171, 178, 183,  
     204  
*Quercus phellos*... 149, 150, 165, 174, 175, 181,  
     205, 213, 217, 218  
*Quercus prinus* .... 114, 131, 139, 146, 150, 155,  
     174, 230  
*Quercus rubra* ..... 157, 172, 175, 181, 183  
*Quercus rubra* var. *ambigua* 127, 153, 203, 220  
*Quercus shumardii* ..... 165, 172, 175, 227, 230  
*Quercus stellata* ...110, 114, 126, 127, 130, 131,  
     136, 138, 146, 147, 150, 154, 155, 166, 167,  
     168, 175, 176, 178, 182, 183, 202  
*Quercus velutina* . 127, 157, 172, 175, 177, 202,  
     225  
*Rubus* sp. .... 196  
*Salix* sp. .... 234  
*Salix bebbiana*..... 234  
*Sassafras albidum* ..... 191  
*Tilia americana* ..... 111  
*Toxicodendron radicans* ..... 103, 104, 105  
*Ulmus* sp. .... 168, 176, 233  
*Ulmus alata* . 129, 132, 164, 193, 216, 220, 221,  
     228  
*Ulmus americana* 129, 132, 164, 215, 216, 220,  
     221, 226, 228  
*Ulmus rubra* 106, 129, 132, 161, 164, 165, 215,  
     216, 220, 221, 228

## APPENDIX III

## Species Index

(junior synonyms in *italics*; pages of individual species accounts in **bold**)

*abjecta* Beamer ..... 90, **157**, 242, 252  
*acantha* Ross & DeLong ..... 92, **175**, 242, 254  
*accicurta* Hepner ..... 215, 216  
*accita* Knull ..... 90, **162**, 242, 253  
*accola* McAtee ..... 100, **236**, 243, 258  
*acericola* Ross & DeLong ..... 153, 154  
*aculeata* Beamer ..... 86, **124**, 241, 250  
*adunca* Beamer ..... 97, **209**, 210, 243, 256  
*aesculi* Beamer ..... 86, **122**, 123, 241, 250  
*affinis* Fitch ..... i, 91, **164**, 242, 253  
*albiquera* Hepner ..... 183  
*alevra* Ross ..... 231  
*alicia* Ross ..... 93, **179**, 242, 254  
*allecta* McAtee ..... 227, 257  
*alloplana* Ross ..... 90, **155**, 242, 252  
*alveyi* Hepner ..... 149  
*amboiensis* Hepner ..... 149  
*amethica* Ross ..... 100, **232**, 243, 258  
*andersoni* Beamer ..... 84, **109**, 241, 249  
*anseri* Hepner ..... 97, **214**, 243, 256  
*apicalis* DeLong ..... 219  
*apicalis* Nawa ..... 219  
*ardens* McAtee ..... i, 86, **128**, 129, 241, 250  
*arenosa* Ross & DeLong ..... 88, **144**, 241, 251  
*arneri* Hepner ..... 168, 253  
*arpegia* Ross ..... 88, **145**, 146, 241, 251  
*arta* Beamer ..... 95, **199**, 243, 255  
*asymmetra* Hepner ..... 164  
*atkinsoni* Hepner ..... 149  
*bainterii* Hepner ..... 222, 223  
*ballista* Beamer ..... 97, **211**, 243, 256  
*basilaris* Say ..... 99, **221**, 243, 257  
*beeri* Hepner ..... 90, **161**, 242, 253  
*bella* McAtee ..... 95, **195**, 243, 255  
*betulae* sp.n. ..... 81, 85, **118**, 119, 241, 250  
*bicurvata* Hepner ..... 231  
*bifida* Beamer ..... 86, **123**, 241, 250  
*bigemina* McAtee ..... 98, **219**, 220, 243, 257  
*billi* Hepner ..... 219, 220  
*biramosa* Beamer ..... 99, **229**, 230, 243, 258  
*bispinosa* Beamer ..... 87, **132**, 133, 241, 251  
*blockeri* Hepner ..... 151  
*brazzeli* Hepner ..... 215  
*brendae* Hepner ..... 192  
*brevipes* Beamer ..... 89, **146**, 147, 242, 252  
*brookii* Hepner ..... 91, **168**, 242, 253  
*brucensis* Hepner ..... 153  
*byersi* Hepner ..... 173  
*caddoensis* Hepner ..... 216  
*calamitosa* Beamer ..... 92, **170**, 171, 242, 253  
*californica* Beamer ..... 124  
*callisoga* Ross ..... 192  
*campora* Robinson ..... 98, 100, **215**, 216, 243, 256  
*carmini* Beamer ..... 85, **114**, 115, 241, 249  
*caverna* Hepner ..... 119  
*cavipierre* Hepner ..... 154  
*cera* Hepner ..... 91, **162**, 163, 242, 253  
*certa* Beamer ..... 95, **191**, 192, 242, 255  
*chehawensis* Hepner ..... 177, 178  
*citrosa* Ross ..... 94, **188**, 242, 255  
*clara* Beamer ..... 94, **189**, 242, 255  
*claroides* Hepner ..... 97, **208**, 243, 256  
*clavipes* Beamer ..... 91, **165**, 242, 253  
*codyi* Hepner ..... 215  
*colmeri* Hepner ..... 127  
*colvardi* Hepner ..... 181, 182  
*combesi* Hepner ..... 131  
*comoides* Ross & DeLong ..... 98, **217**, 243, 257  
*compressa* Knull & Auten ..... 216  
*concisa* Beamer ..... 85, **119**, 120, 241, 250  
*confirmata* McAtee ..... 98, **218**, 243, 257  
*consueta* Beamer ..... 119, 120  
*continua* Knull & Auten ..... 96, **201**, 243, 256  
*contracta* Beamer ..... 99, **228**, 243, 257  
*coryli* Tollin ..... 124  
*coryli* Van Duzee ..... 124  
*corylorubra* Knull ..... 94, **186**, 242, 254  
*coxi* Ross & DeLong ..... 95, **196**, 243, 255  
*crinita* Beamer ..... 84, **108**, 241, 249  
*cristata* Knull ..... 87, **136**, 137, 241, 251  
*cunninghami* Hepner ..... 131  
*curta* Beamer ..... 97, **210**, 243, 256  
*curtoides* Hepner ..... 215  
*curvata* Beamer ..... 84, **112**, 241, 249  
*custeri* Hepner ..... 221  
*daltonorum* Hepner ..... 221  
*deformata* Hepner ..... 235  
*deklei* Hepner ..... 101  
*delongi* Knull & Auten ..... 89, **148**, 242, 252  
*denmarki* Hepner ..... 101  
*dimidiata* Knull ..... 85, **117**, 241, 250  
*dira* Beamer ..... 81, 82, 95, **101**, 241, 249  
*direpta* Knull ..... 95, **192**, 193, 242, 255  
*distincta* Knull & Auten ..... 87, **139**, 241, 251  
*doeringae* Hepner ..... 145  
*douglasi* Hepner ..... 204  
*dulcis* McAtee ..... 106, 249  
*dumosa* Beamer ..... 99, **226**, 227, 243, 257

*dura* Knull ..... 200  
*econa* Ross ..... 93, **178**, 242, 254  
*edeni* Hepner ..... 189  
*ellisi* Hepner ..... 92, **174**, 175, 242, 254  
*emqua* Ross & DeLong ..... 97, **213**, 243, 256  
*era* McAtee ..... 92, 98, **173**, 242, 254  
*eversi* Ross & DeLong ..... 83, **104**, 105, 241, 249  
*externa* Beamer ..... 91, **167**, 242, 253  
*facota* Beamer ..... 87, **136**, 241, 251  
*fagusae* Hepner ..... 189  
*fausta* Knull ..... 95, **194**, 195, 242, 255  
*fergersoni* Hepner ..... 92, **174**, 242, 254  
*ferrosa* Hepner ..... 164  
*firma* Beamer ..... 87, **131**, 132, 241, 251  
*flexibilis* Knull ..... 94, **190**, 191, 242, 255  
*forfex* Beamer ..... 85, **115**, 241, 249  
*freytagi* Hepner ..... 149, 150  
*fulleri* Hepner ..... i, 94, **187**, 242, 255  
*gemina* McAtee ..... 96, **204**, 205, 243, 256  
*gemooides* Ross ..... 96, **204**, 243, 256  
*geronimo* Knull ..... 100, **234**, 243, 258  
*gilesi* Hepner ..... 93, **181**, 182, 242, 254  
*gillettei* Beamer ..... 83, **102**, 241, 249  
*glicilla* Ross ..... 95, **197**, 198, 243, 255  
*greeni* Hepner ..... 93, **180**, 242, 254  
*guicei* Hepner ..... 99, **223**, 243, 257  
*hamneri* Hepner ..... 181  
*harnedi* Hepner ..... 87, **134**, 241, 251  
*harpola* Ross ..... 85, **121**, 241, 250  
*hartii* Gillette ..... 90, **157**, 158, 242, 252  
*havana* Ross & DeLong ..... 96, **203**, 204, 243, 256  
*haysensis* Hepner ..... 100, **233**, 243, 258  
*hendersoni* Hepner ..... 192  
*hepneri* Dmitriev & Dietrich ..... 189  
*hibernia* Hepner ..... 219  
*hutchinsi* Hepner ..... 130, 131, 251  
*hyalina* Knull & Auten ..... 87, **133**, 241, 251  
*hymac* Robinson ..... 91, **166**, 167, 242, 253  
*hymettana* Knull ..... 96, **199**, 200, 243, 255  
*igella* Ross & DeLong ..... 93, **183**, 242, 254  
*imbricariae* Ross & DeLong ..... 83, **102**, 103, 241, 249  
*immota* Beamer ..... 89, **149**, 242, 252  
*impar* Beamer ..... 84, **113**, 114, 241, 249  
*incondita* Beamer ..... 88, **143**, 241, 251  
*inepta* Beamer ..... 86, **130**, 131, 241, 251  
*ingrata* Beamer ..... 88, **143**, 144, 241, 251  
*inksana* Knull ..... 90, **154**, 242, 252  
*insolita* McAtee ..... 128, 250  
*interna* Beamer ..... 92, **176**, 242, 254  
*johsoni* Hepner ..... 174  
*kansana* Baker ..... 128  
*kirki* Hepner ..... 155  
*knighti* Beamer ..... 94, **185**, 242, 254  
*knnullae* Ross ..... 89, **151**, 152, 242, 252  
*krameri* Hepner ..... 206  
*kuiterti* Hepner ..... 208  
*lamucata* Ross & DeLong ..... 83, **103**, 241, 249  
*larryi* Hepner ..... 215  
*lata* Beamer ..... 90, **159**, 160, 242, 252  
*lawsoni* Robinson ..... 96, **200**, 201, 243, 256  
*lenta* Beamer ..... 93, **180**, 181, 242, 254  
*levecki* Hepner ..... 90, **160**, 242, 252  
*ligata* McAtee ..... 99, **227**, 228, 243, 257  
*lilliana* Hepner ..... 219  
*linea* Beamer ..... 85, **115**, 116, 241, 250  
*longa* Knull ..... 91, **168**, 169, 242, 253  
*longifurca* Hepner ..... 86, **126**, 127, 241, 250  
*loriae* Hepner ..... 197  
*lucora* Hepner ..... 119, 120  
*luculenta* Knull ..... 95, **194**, 242, 255  
*lucyae* Hepner ..... 99, **222**, 223, 243, 257  
*lunata* McAtee ..... 97, **209**, 243, 256  
*lundi* Hepner ..... 99, **224**, 243, 257  
*lusoria* Van Duzee ..... 86, **124**, 125, 241, 250  
*lyriquera* Hepner ..... 204  
*macra* Beamer ..... 100, **234**, 235, 243, 258  
*maculata* Gillette ..... 83, **103**, 104, 241, 249  
*maga* Knull ..... 93, **182**, 242, 254  
*malaca* Knull ..... 96, **205**, 206, 243, 256  
*manus* Beamer ..... 86, **127**, 137, 241, 250  
*marilandicae* Ross ..... 92, **171**, 172, 242, 253  
*mariquera* Hepner ..... 215  
*marra* Beamer ..... 99, **224**, 225, 243, 257  
*masonae* Knull ..... 219  
*maxwelli* Hepner ..... 181  
*mcateeii* sp.n. ..... 81, 87, **137**, 138, 241, 251  
*meadi* Hepner ..... 219  
*mediana* Robinson ..... 200  
*mensa* Beamer ..... 98, **220**, 221, 243, 257  
*metopia* Ross ..... 92, **177**, 242, 254  
*micheneri* Hepner ..... 99, **222**, 243, 257  
*millsi* Ross & DeLong ..... 86, **126**, 241, 250  
*mimica* Ross ..... 89, **153**, 242, 252  
*minor* Beamer ..... 86, **122**, 241, 250  
*mira* Beamer ..... 87, **135**, 241, 251  
*mirifica* Beamer ..... 90, **156**, 242, 252  
*misera* Beamer ..... 90, **158**, 242, 252  
*mitella* McAtee ..... 218  
*morgani* DeLong ..... i, 95, **198**, 199, 243, 255  
*natchezensis* Hepner ..... 200  
*nevadensis* Beamer ..... 90, **159**, 242, 252  
*nielsoni* Hepner ..... 156  
*nigriquera* Hepner ..... 204, 205  
*nigriventer* Beamer ..... 88, **141**, 241, 251  
*nimia* Knull ..... 94, **189**, 190, 242, 255  
*noncuspidis* Beamer ..... 83, **105**, 241, 249  
*norica* Ross ..... 232, 233

*omani* Beamer ..... 89, **152**, 242, 252  
*opulenta* Beamer ..... 92, **172**, 242, 254  
*ordinaria* Knull & Auten ..... 209  
*ordinaria* Ribaut ..... 209  
*osborni* DeLong ..... 83, **106**, 107, 241, 249  
*ostryae* Hepner ..... 189  
*pallida* Knull & Auten ..... 113  
*paluloides* Ross ..... 148  
*pamelae* Hepner ..... 96, **202**, 243, 256  
*paraesculi* Knull ..... 84, **109**, 110, 241, 249  
*parallela* McAtee ..... 96, **207**, 243, 256  
*parisensis* Hepner ..... 235  
*parva* Beamer ..... 90, **155**, 156, 242, 252  
*parvipes* Beamer ..... 92, **170**, 242, 253  
*patei* Hepner ..... 187, 255  
*patriciae* Hepner ..... 219  
*patris* Ross & DeLong ..... 92, **177**, 178, 242, 254  
*paulae* Hepner ..... 233  
*penerostrata* Beamer ..... 97, **212**, 243, 256  
*penesica* Beamer ..... 96, **206**, 243, 256  
*perplexa* Knull ..... 209, 210  
*phellos* Ross & DeLong ..... 98, **218**, 219, 243, 257  
*pitrei* Hepner ..... 232  
*priniquera* Hepner ..... 139  
*prolixa* Knull ..... 100, **230**, 231, 243, 258  
*propria* Beamer ..... 89, **146**, 241, 251  
*protuma* Ross ..... 96, **203**, 243, 256  
*pumicasta* Hepner ..... 151  
*pupillata* McAtee ..... 227, 257  
*pyra* McAtee ..... i, 86, **125**, 241, 250  
*quercalbae* Ross & DeLong ..... 134  
*rangifer* Ross & DeLong ..... 85, **116**, 117, 241, 250  
*ratcliffensis* Hepner ..... 147  
*reedi* Hepner ..... 204  
*reiteri* Hepner ..... 219  
*restricta* Beamer ..... 84, **113**, 241, 249  
*retusa* Beamer ..... 91, **166**, 242, 253  
*richardsi* Ross ..... 92, **171**, 242, 253  
*robinsoni* Hepner ..... 219  
*robusta* Knull ..... 92, **176**, 177, 242, 254  
*rossi* Hepner ..... 219  
*rostrata* Beamer ..... 97, **211**, 212, 243, 256  
*rotunda* Beamer ..... i, 88, 94, **140**, 241, 251  
*rubida* Knull ..... 164, 253  
*rubranotata* Beamer ..... 94, **187**, 188, 242, 255  
*rubrarta* Hepner ..... 199  
*rubraza* Robinson ..... 91, **163**, 242, 253  
*rubulna* Hepner ..... 221  
*sabita* Sinha & Beamer ..... 215, 216  
*sadleri* Hepner ..... 176, 177  
*sancta* Beamer ..... 89, **153**, 154, 242, 252  
*sanctaerosae* Hepner ..... 85, **118**, 241, 250  
*sandersoni* Ross ..... 83, **107**, 108, 241, 249  
*schista* Knull ..... 126  
*scobyensis* Hepner ..... 171  
*scutellaris* Gillette ..... 128  
*scutellaris* Herrich-Schäffer ..... 128  
*sebringensis* Hepner ..... 91, **169**, 242, 253  
*separata* Beamer ..... 84, **111**, 112, 241, 249  
*septima* Beamer ..... 209  
*sethi* Hepner ..... 175  
*severini* Knull ..... 96, **207**, 208, 243, 256  
*shumiquera* Hepner ..... 131  
*siloamensis* Hepner ..... 101  
*simplex* Ferrari ..... 209  
*simplex* Knull & Auten ..... 209  
*smithi* Ross ..... 100, **230**, 243, 258  
*socia* Knull ..... 100, **235**, 243, 258  
*solida* Knull ..... 151  
*solita* Beamer ..... 89, **151**, 242, 252  
*sorota* Hepner ..... 89, **150**, 242, 252  
*spala* Ross & DeLong ..... 85, 119, **120**, 121, 241, 250  
*spatulata* Beamer ..... 189  
*spatulata* Ross ..... 189  
*spinea* Knull ..... 88, **139**, 140, 241, 251  
*spinifera* Beamer ..... 98, **216**, 217, 243, 257  
*spiniterma* Hepner ..... 136, 137  
*staffordi* Hepner ..... 86, **128**, 241, 250  
*staminea* Knull ..... 99, **225**, 243, 257  
*stannardi* Hepner ..... 93, **183**, 184, 242, 254  
*starkvillensis* Hepner ..... 236  
*stephensi* Beamer ..... 91, **164**, 165, 242, 253  
*stoveri* Ross & DeLong ..... 98, **215**, 243, 257  
*stupkaorum* Knull ..... 88, **141**, 142, 241, 251  
*tammina* Ross & DeLong ..... 84, **110**, 241, 249  
*tantilla* Beamer ..... 89, **149**, 150, 242, 252  
*tantula* Knull ..... 90, **160**, 161, 242, 252  
*tenilla* Ross & DeLong ..... 127  
*tenuitas* Knull ..... 100, **232**, 233, 243, 258  
*teres* Beamer ..... 100, **231**, 243, 258  
*tersa* Knull ..... 95, **193**, 242, 255  
*teshi* Hepner ..... 83, **106**, 241, 249  
*texana* Beamer ..... 84, **111**, 241, 249  
*thaxtoni* Hepner ..... 131, 132  
*torella* Robinson ..... 95, **196**, 197, 243, 255  
*trautmanae* Knull ..... 93, **184**, 242, 254  
*triangulata* Beamer ..... 94, **185**, 186, 242, 254  
*trivittata* Robinson ..... 97, **213**, 214, 243, 256  
*tumida* Knull ..... 95, **197**, 243, 255  
*turgida* Beamer ..... 89, **147**, 148, 242, 252  
*unca* Knull ..... 99, **226**, 243, 257  
*uncinata* Beamer ..... 88, **145**, 241, 251  
*ungulata* Beamer ..... 87, **138**, 241, 251  
*unica* Beamer ..... 87, **134**, 135, 241, 251  
*univittata* Robinson ..... 173  
*usitata* Beamer ..... 88, **142**, 241, 251  
*uvaleana* Knull ..... 86, **129**, 130, 241, 250

*vacua* Knull ..... 155  
*valida* Knull ..... 96, **201**, 202, 243, 256  
*velox* Ross ..... 131, 132  
*ventura* Knull & Auten ..... 158  
*vinsoni* Hepner ..... 173  
*vittata* Knull & Auten ..... 99, **229**, 243, 258  
*vulgaris* Hepner ..... 164  
*weemsi* Hepner ..... 187  
*whitcombi* Hepner ..... 160  
*wilsoni* Hepner ..... 230  
*winslowensis* Hepner ..... 229  
*wisei* Hepner ..... 181  
*wiyguli* Hepner ..... 215  
*wolcottensis* Hepner ..... 221  
*woodruffi* Hepner ..... 124  
*youngi* Hepner ..... 221  
zioni Beamer ..... 93, **179**, 180, 242, 254

## ILLUSTRATIONS: Plates 2–11

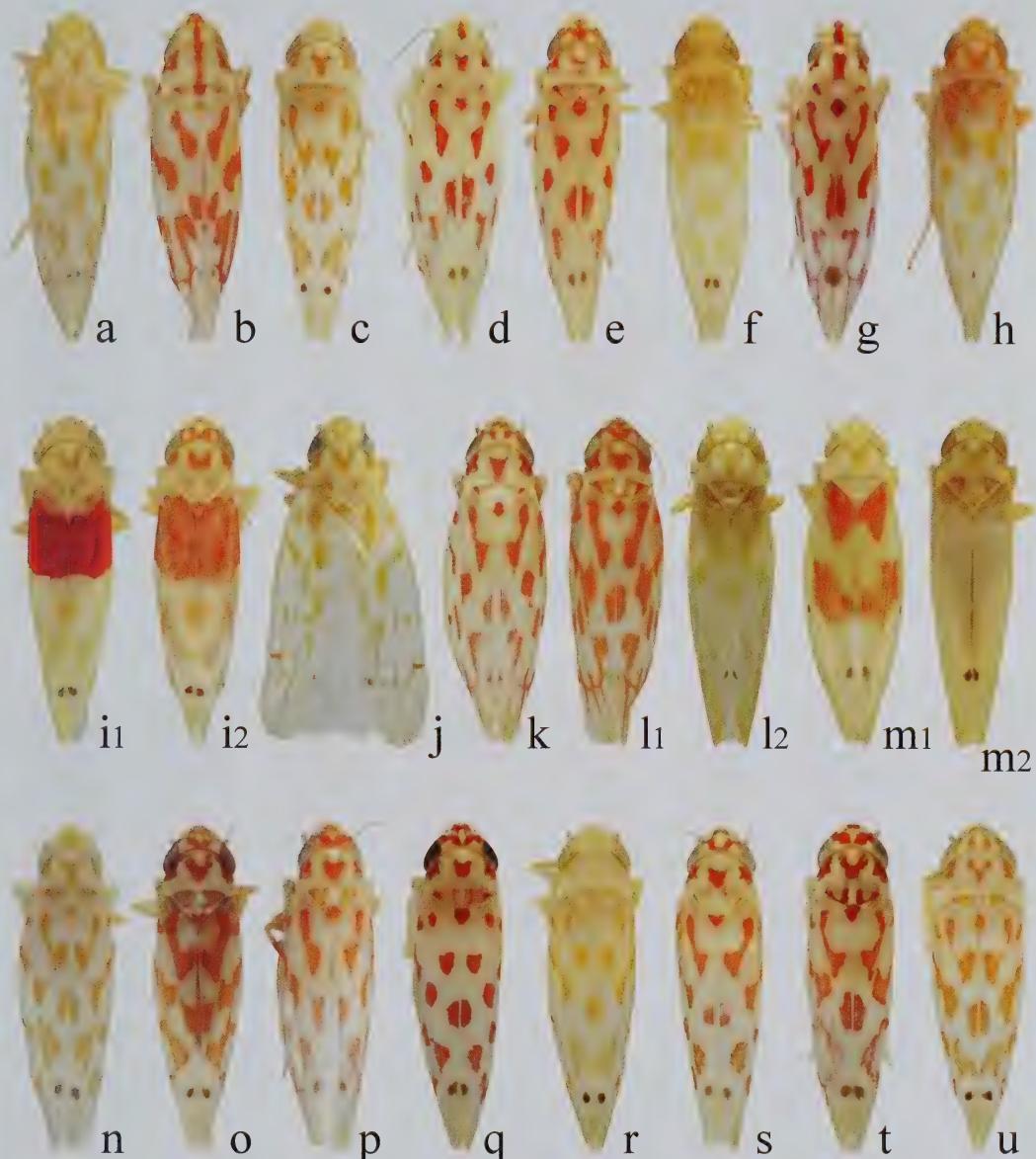


Plate 2. Habitus of *Eratoneura* species. a – *E. dira* (Beamer); b – *E. gillettei* (Beamer), paratype; c – *E. imbricariae* (Ross & DeLong); d – *E. lamucata* (Ross & DeLong), holotype; e – *E. maculata* (Gillette); f – *E. eversi* (Ross & DeLong); g – *E. noncuspidis* (Beamer), paratype; h – *E. teshi* (Hepner); i – *E. osborni* (DeLong); i1 – holotype; i2 – color var. *dulcis*; j – *E. sandersoni* (Ross); k – *E. crinita* (Beamer), paratype; l1–l2 – *E. andersoni* (Beamer), color variations; m – *E. paraesculi* (Knoll); m1 – holotype; m2 – paratype; n – *E. tammina* (Ross & DeLong); o – *E. texana* (Beamer), paratype; p – *E. separata* (Beamer), paratype; q – *E. curvata* (Beamer); r – *E. restricta* (Beamer); s – *E. impar* (Beamer); t – *E. carmini* (Beamer); u – *E. forfex* (Beamer).

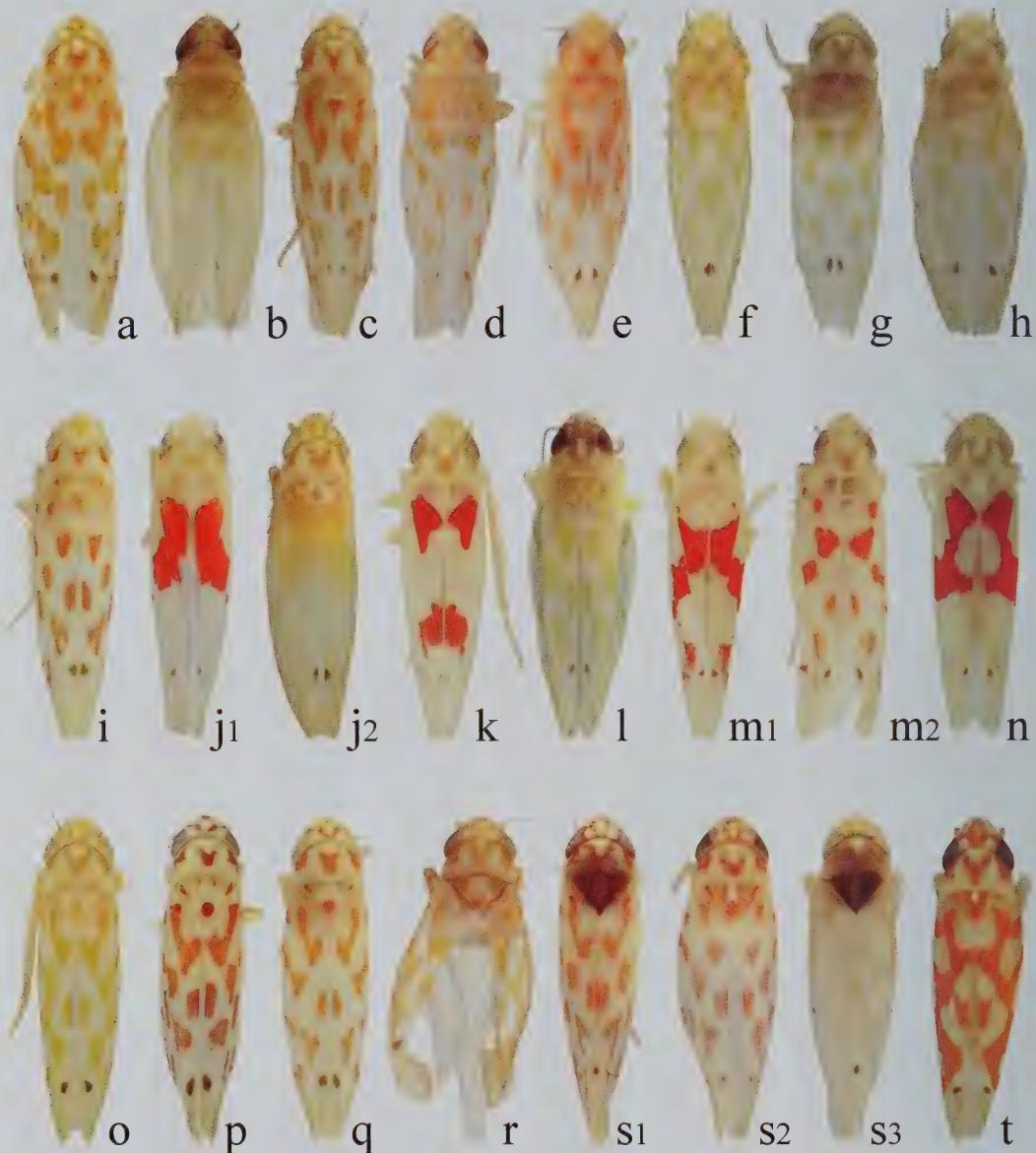


Plate 3. Habitus of *Eratoneura* species. a – *E. linea* (Beamer); b – *E. rangifer* (Ross & DeLong); c – *E. dimidiata* (Knoll), holotype; d – *E. sanctaerosae* (Hepner), holotype; e – *E. betulae* sp.n., holotype; f – *E. concisa* (Beamer); g – *E. spala* (Ross & DeLong); h – *E. harpola* (Ross); i – *E. minor* (Beamer); j<sub>1</sub>–j<sub>2</sub> – *E. aesculi* (Beamer), color variations; k – *E. bifida* (Beamer); l – *E. aculeata* (Beamer); m<sub>1</sub>–m<sub>2</sub> – *E. lusoria* (Van Duzee), color variations; n – *E. pyra* (McAtee); o – *E. millsi* (Ross & DeLong); p – *E. longifurca* (Hepner); q – *E. manus* (Beamer); r – *E. staffordi* (Hepner), paratype; s<sub>1</sub>–s<sub>3</sub> – *E. ardens* (McAtee), color variations; s<sub>3</sub> – color var. *insolita*; t – *E. uvaldeana* (Knoll), paratype.



Plate 4. Habitus of *Eratoneura* species. a – *E. inepta* (Beamer); a2 – color var. *hutchinsi*; b – *E. firma* (Beamer); c – *E. bispinosa* (Beamer); d – *E. hyalina* (Knoll & Auten), holotype; e – *E. harnedi* (Hepner), holotype; f – *E. unica* (Beamer); g – *E. mira* (Beamer); h – *E. facota* (Beamer), paratype; i – *E. cristata* (Knoll); j – *E. mcateeii* sp.n.; k – *E. ungulata* (Beamer); l – *E. distincta* (Knoll & Auten); m – *E. spinea* (Knoll); n – *E. rotunda* (Beamer); o – *E. nigriventer* (Beamer); p – *E. stupkaorum* (Knoll), holotype; q – *E. usitata* (Beamer); r – *E. incondita* (Beamer); s – *E. ingrata* (Beamer); t – *E. arenosa* (Ross & DeLong); u – *E. uncinata* (Beamer); v – *E. arpegia* (Ross), paratype; w – *E. propria* (Beamer).



Plate 5. Habitus of *Eratoneura* species. a – *E. brevipes* (Beamer); b<sub>1</sub>–b<sub>2</sub> – *E. turgida* (Beamer), color variations; c – *E. delongi* (Knoll & Auten); d – *E. immota* (Beamer); e – *E. tantilla* (Beamer); f – *E. sorota* (Hepner), holotype; g – *E. solita* (Beamer); h – *E. knullae* (Ross), paratype; i – *E. omani* (Beamer); j – *E. mimica* (Ross); k – *E. sancta* (Beamer), paratype; l – *E. inksana* (Knoll), paratype; m – *E. alloplana* (Ross), paratype; n – *E. parva* (Beamer); o – *E. mirifica* (Beamer); p – *E. abjecta* (Beamer); q – *E. hartii* (Gillette); r<sub>1</sub>–r<sub>2</sub> – *E. misera* (Beamer), color variations; s – *E. nevadensis* (Beamer), paratype; t – *E. lata* (Beamer); u – *E. levecki* (Hepner), paratype; v – *E. tantula* (Knoll), holotype.

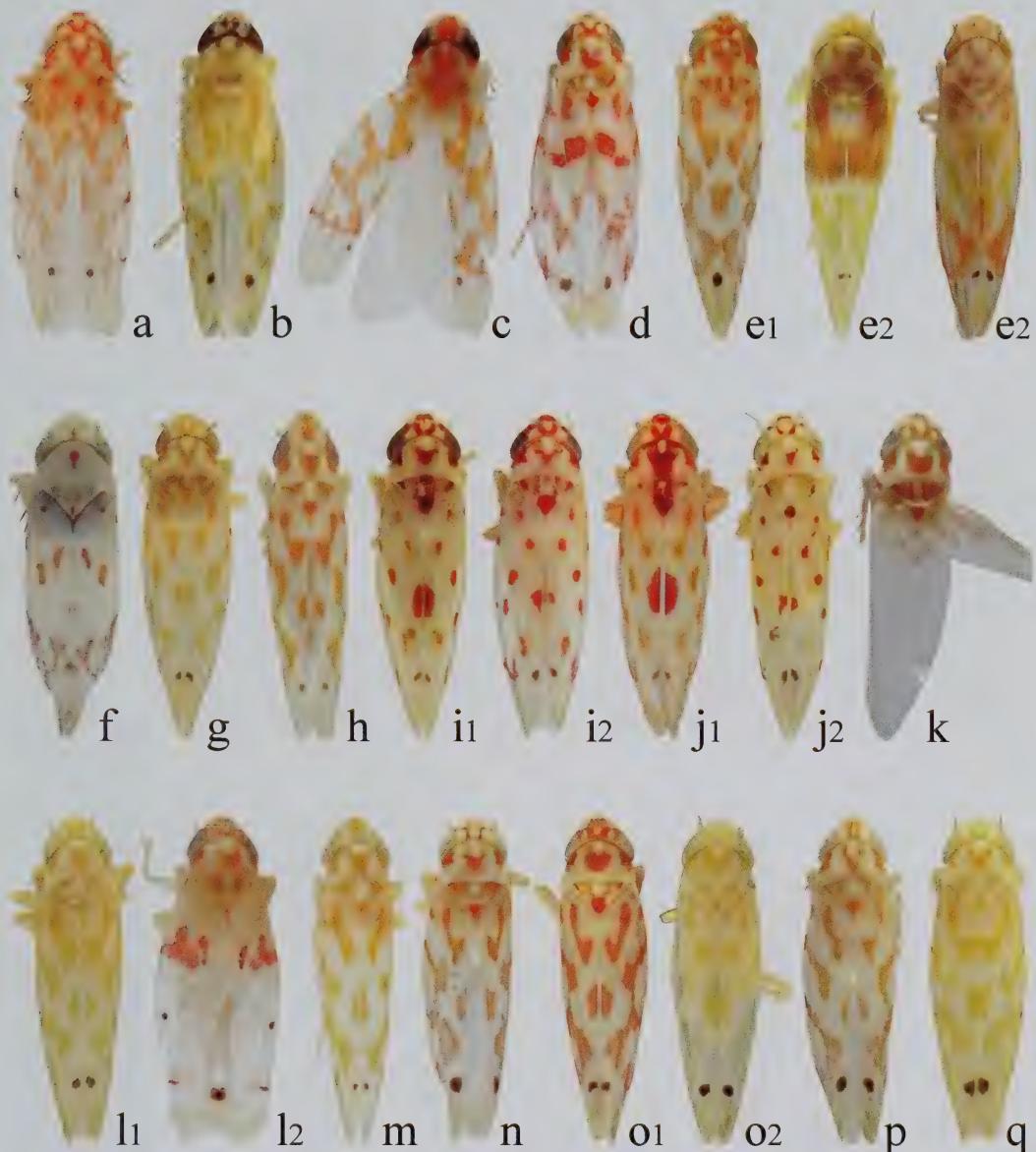


Plate 6. Habitus of *Eratoneura* species. a – *E. beeri* (Hepner), holotype; b – *E. accita* (Knoll), paratype; c – *E. cera* (Hepner), holotype; d – *E. rubraza* (Robinson); e1–e3 – *E. affinis* (Fitch), color variations; e3 – color var. *rubida*; f – *E. stephensonii* (Beamer); g – *E. clavipes* (Beamer); h – *E. retusa* (Beamer); i1–i2 – *E. hymac* (Robinson), color variations; j1–j2 – *E. externa* (Beamer), color variations; k – *E. brooki* (Hepner); l1–l2 – *E. longa* (Knoll); l2 – holotype of *E. arneri* (Hepner); m – *E. sebringensis* (Hepner), paratype; n – *E. parvipes* (Beamer); o1–o2 – *E. calamitosa* (Beamer), color variations; p – *E. richardsi* (Ross), paratype; q – *E. marilandicae* (Ross).



Plate 7. Habitus of *Eratoneura* species. a – *E. opulenta* (Beamer), paratype; b<sub>1</sub>–b<sub>3</sub> – *E. era* (McAtee), color variations; c – *E. fergusoni* (Hepner); d – *E. ellisi* (Hepner); e – *E. acantha* (Ross & DeLong); f – *E. interna* (Beamer); g – *E. robusta* (Knoll), paratype; h – *E. metopia* (Ross), paratype; i – *E. patris* (Ross & DeLong); j – *E. econa* (Ross); k – *E. alicia* (Ross), paratype; l – *E. zioni* (Beamer), paratype; m – *E. greeni* (Hepner), paratype; n – *E. lenta* (Beamer); o – *E. gilesi* (Hepner); p – *E. maga* (Knoll), paratype; q – *E. igella* (Ross & DeLong); r – *E. stannardi* (Hepner), holotype; s – *E. trautmanae* (Knoll); t – *E. knighti* (Beamer); u – *E. triangulata* (Beamer); v – *E. corylorubra* (Knoll), paratype.



Plate 8. Habitus of *Eratoneura* species. a<sub>1</sub>–a<sub>2</sub> – *E. fulleri* (Hepner); a<sub>2</sub> – color var. *patei*; b<sub>1</sub>–b<sub>3</sub> – *E. rubranotata* (Beamer), color variations; c – *E. citrosa* (Ross); d – *E. clara* (Beamer); e – *E. nimia* (Knoll); f – *E. flexibilis* (Knoll); g – *E. certa* (Beamer); h – *E. direpta* (Knoll); i – *E. tersa* (Knoll); j – *E. luculenta* (Knoll), paratype; k – *E. fausta* (Knoll), paratype; l – *E. bella* (McAtee); m – *E. torella* (Robinson); n<sub>1</sub>–n<sub>2</sub> – *E. coxi* (Ross & DeLong), color variations; n<sub>2</sub> – holotype; o – *E. tumida* (Knoll); p – *E. glicilla* (Ross), holotype; q<sub>1</sub>–q<sub>2</sub> – *E. morgani* (DeLong), color variations; r – *E. arta* (Beamer); s – *E. hymettana* (Knoll), paratype.



Plate 9. Habitus of *Eratoneura* species. a – *E. lawsoni* (Robinson); b – *E. continua* (Knoll & Auten), holotype; c – *E. valida* (Knoll); d – *E. pamelae* (Hepner); e – *E. protuma* (Ross), holotype; f – *E. havana* (Ross & DeLong); g – *E. gemoides* (Ross), paratype; h – *E. malaca* (Knoll); i1–i2 – *E. gemina* (McAtee), color variations; i2 – holotype; j – *E. penesica* (Beamer); k – *E. parallela* (McAtee), holotype; l – *E. severini* (Knoll), paratype; m – *E. claroides* (Hepner), holotype; n – *E. lunata* (McAtee), allotype; o – *E. adunca* (Beamer); p – *E. curta* (Beamer), holotype; q – *E. ballista* (Beamer); r – *E. rostrata* (Beamer); s – *E. penerostrata* (Beamer); t – *E. emqua* (Ross & DeLong), paratype; u – *E. trivittata* (Robinson); v – *E. anseri* (Hepner), paratype; w – *E. campora* (Robinson).

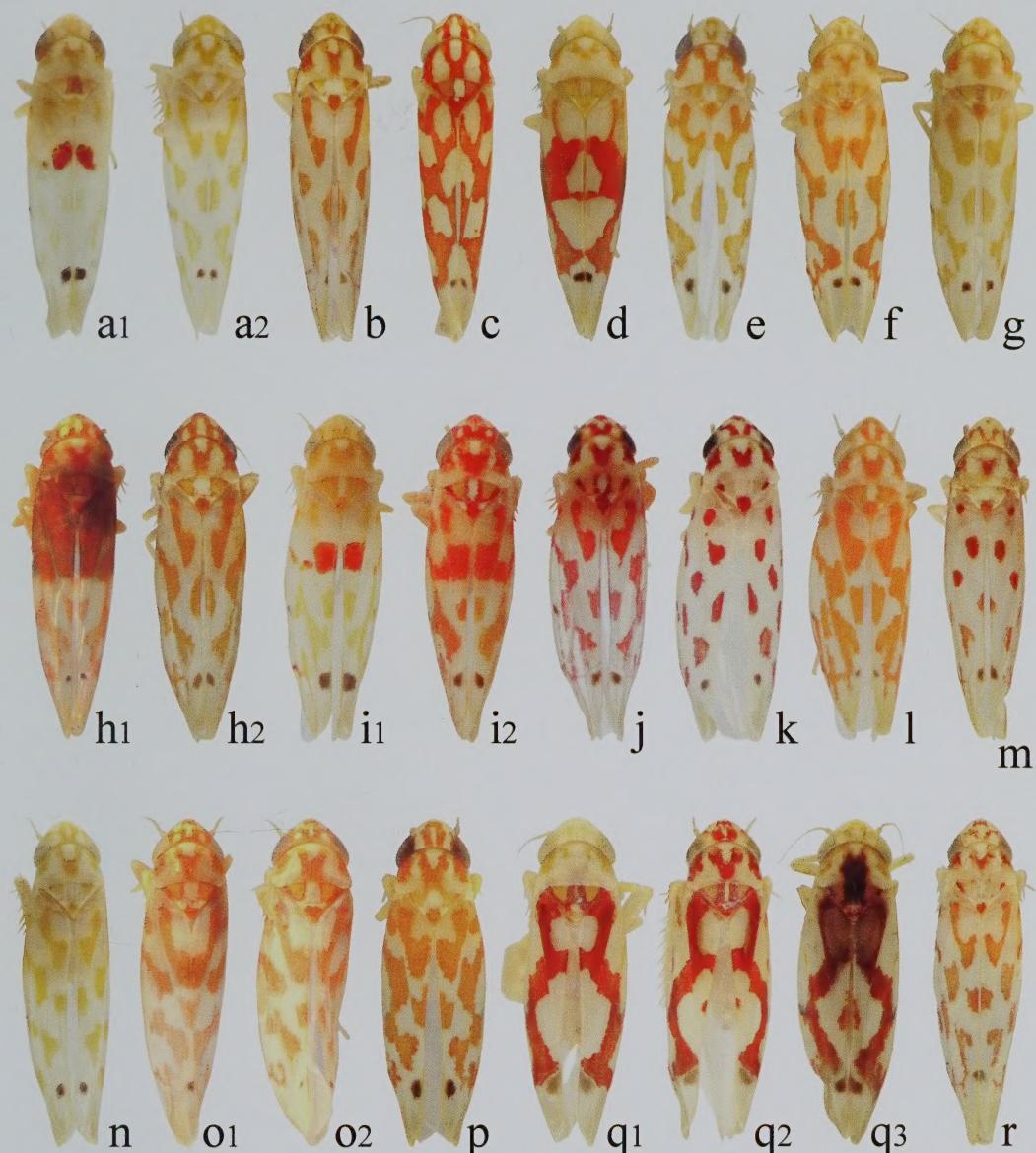


Plate 10. Habitus of *Eratoneura* species. a<sub>1</sub>–a<sub>2</sub> – *E. stoveri* (Ross & DeLong), color variations; b – *E. spinifera* (Beamer), paratype; c – *E. comoides* (Ross & DeLong), holotype; d – *E. confirma- ta* (McAtee); e – *E. phellos* (Ross & DeLong); f – *E. bigemina* (McAtee); g – *E. mensa* (Beamer); h<sub>1</sub>–h<sub>2</sub> – *E. basilaris* (Say), color variations; h<sub>2</sub> – neotype; i<sub>1</sub>–i<sub>2</sub> – *E. micheneri* (Hepner), color variations; j – *E. lucyae* (Hepner); k – *E. guicei* (Hepner), paratype; l – *E. lundi* (Hepner), para- type; m – *E. marra* (Beamer), paratype; n – *E. staminea* (Knull); o<sub>1</sub>–o<sub>2</sub> – *E. unca* (Knull), color variations; p – *E. dumosa* (Beamer); q<sub>1</sub>–q<sub>3</sub> – *E. ligata* (McAtee), color variations; q<sub>1</sub> – holotype; q<sub>2</sub> – holotype of *E. ligata* var. *allecta* McAtee; q<sub>3</sub> – holotype of *E. ligata* var. *pupillata* McAtee; r – *E. contracta* (Beamer).

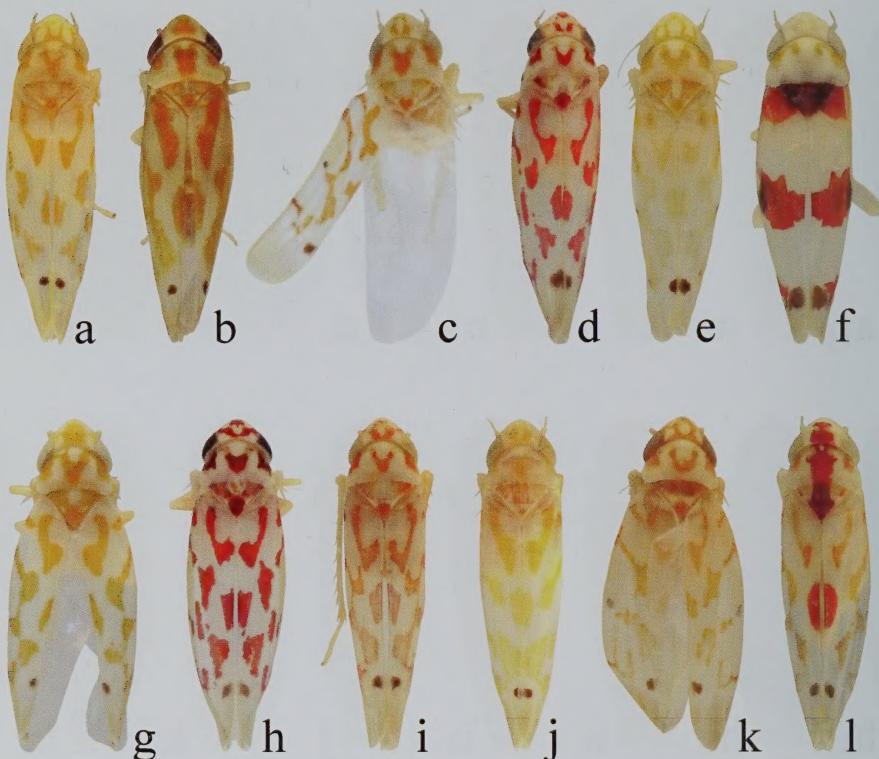


Plate 11. Habitus of *Eratoneura* species. a - *E. vittata* (Knoll & Auten); b - *E. bimaculata* (Beamer); c - *E. smithi* (Ross), paratype; d - *E. prolixa* (Knoll); e - *E. teres* (Beamer); f - *E. amethica* (Ross), paratype; g - *E. tenuitas* (Knoll); h - *E. haysensis* (Hepner); i - *E. geronimo* (Knoll), holotype; j - *E. macra* (Beamer); k - *E. socia* (Knoll), holotype; l - *E. accola* (McAtee).



UNIVERSITY OF ILLINOIS-URBANA



3 0112 047225633



Institute of Natural Resource Sustainability  
Illinois Natural History Survey  
I-Building  
1816 South Oak Street  
Champaign, Illinois 61820  
217-333-6880

ISBN 978-1-882932-24-5



9 781882 932245

